



**KOREAN DOMESTIC THIRD PARTY LOGISTICS PROVIDERS:  
REACH FOR A GLOBAL MARKET**

THESIS

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**THESIS**

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### **Abstract**

The objective of this thesis is to contribute to the globalization of Korean domestic third party logistics companies. This is accomplished through a benchmarking model for globalization based on a comparative analysis of domestic and global third party logistics provider (3PLs) companies.

The research performed a SWOT analysis to identify the capabilities required by Korean domestic 3PLs to become global 3PLs. The research investigated the following areas: 1) global service, 2) infrastructure, 3) supply chain management (SCM) services, and 4) information technology (promptness, visibility). This was accomplished by an extensive literature review, case analysis of logistics companies, and telephone interviews with individuals in charge of logistics.

Four areas for improvement were identified: 1) Construction of SCM for one-stop service, 2) Utilization of the advanced IT systems for e-SCM, and consolidating communication network, 3) Expansion of logistics infra-structure by analyzing each region of the world for return on investment opportunities and competition, 4) Enlargement of scale in which Korean 3PLs must enlarge their scale of operations as soon as possible by strategic methods such as mergers and acquisitions (M&A) with local companies.

There is potential growth for Korean 3PLs if they strive to enhance competitiveness as noted above and have government supports. These improvement areas provide a foundation for global competitiveness.

*I dedicate this thesis to my parents and beautiful fiancée.  
Their support, understanding, and wonderful love made all of this possible.*

## **Acknowledgments**

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Daewon Kim

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# **KOREAN DOMESTIC THIRD PARTY LOGISTICS PROVIDERS: REACH FOR A GLOBAL MARKET**

## **I. Introduction**

### **Background and Research Purpose**

Logistics is a hot issue especially with information technology advancements and increased globalization. Third party logistics is important not only support supply chain management services through strategic cooperation, but also expand a company's geographical operation area and improve services. Improving service and quality became an unavoidable issue to third party logistics providers (3PLs) because global logistics market has expanded markedly, and customer requirements for logistics services have varied. To overcome this issue, Korean 3PLs provide value-added logistics and integrated logistics services to meet customers' demands, while trying to develop customized services.

Competition is intense as logistics providers (mailing services provider, forwarder, and special delivery providers) work towards integrated services, that make distinct boundaries ambiguous. Thus, every business sets up various strategies to provide more offerings to customers. Compared with the top 10 U.S. global logistics providers or European logistics providers, Korean 3PLs lack a global mindset, global infrastructure, information technology, and supply chain management, which does not allow them to provide various logistics services. Korean 3PLs require business and environmental changes to become competitive logistics providers in the North-eastern area of Asia and to create a foundation for growth to a global scale. This research examines the global strategies of the biggest 3PLs, recommend specific strategies from these 3PLs that Korean 3PLs can use to establish a global presence.

## **Research Methodology and Limitation**

This research concentrates on related literature study to include books, seminar materials, periodicals, web-based materials, statistical data, and analysis of surveys on airlift, sealift, special delivery, third party logistics, and global management. The research also presents a current view of globalization by examining three of the world's largest 3PLs. Their competitive strategies are compared against Korean domestic 3PLs and areas for improvement by Korean 3PLs are indentified. This research is an indicator that gives new directions for Korean third party logistics providers. It helps them draw their own strategies, to become powerful firms with global competencies.

Research material is from the following sources: Korean Trade Association, Korean Union of Transportation, Korea Logistics Association, National Information Association, Korea Transportation Institute, Ministry of Land/Transport and Maritime Affairs, Korea Ocean and Fisheries Institute, Korea Logistics Journal, Korea Development Institute; FedEx, DHL, TNT, UPS, Daehan Express, Hanjin Logistics, Hyundai Logistics, CJ GLS and their web sites. Surveys and interviews are from FedEx Korean branch, DHL Korean branch, UPS Korean branch, Daehan Express, Hanjin Logistics, Hyundai Logistics and CJ GLS,.

## **Summary**

This chapter briefly discussed the research topic, purpose of this research, limitations and methodologies. Chapters 2 provides a definition of global logistics service, its development processes, recent global logistics environment changes, and characteristics of 3PLs under these changes. Survey criterion and methodology used in this research are in chapter 3 along with, descriptive trends in the 3PL market. Business strategies and competitive factors are also identified. Survey and interview results are discussed in chapter 4

along with strategies to become competitive global 3PLs. Finally, chapter 5 provides a research summary, managerial implications, limitations, and areas for future research.

## **II. Concept and Definition of Global Logistics and Business Environment Changes**

### **Concept of Global Logistics**

#### **Definition of Global Logistics**

As business management is globalized, receiving resources from overseas, parts production, assembling finished goods, sales, and customer service become more important. This is especially true in the same regional areas such as the European Union and the North America Free Trade Agreement. This reduces economic pressures and Korean firms have to be capable of producing, sourcing, and completing sales in the local area. Global logistics provides the linkage for global businesses. Production can be located in an optimal area while efficient logistics systems allow world-wide distribution.

Global logistics is activities that are performed internationally, and include five basic functions: transportation, loading and unloading, packaging, storage, and information. These activities are performed between more than two nations. Thus the importance of transportation is very high (Kim Taehyun, 1996:141-142).

Global logistics is managing and utilizing production flow from resources to finished goods by gathering scattered production and sales footholds, and making networks between them. This is a major factor in production and marketing strategy that reduces floating capital and improves customer services. Costs associated with global logistics are much more than domestic logistics so it has huge strategic value (Kim S., 2002:4-5).

Global logistics is not different from domestic logistics in the perspective of activity, however, it is more complex and uses more resources than domestic logistics because of the 4Ds (Distance, Documents, Diversity in culture, Demands of customers). Global logistics has different issues from domestic logistics in the areas of performance cycle length, operations, system integration, and alliance (Korean Maritime Institute, 2001:175-176).

Lack of communication, financial conditions, package conditions, sealift schedule, long shipping time, are all problems associated with global logistics. Hence, circulating cycle and flexibility problems are significant problems. From an operational perspective, efficient global logistics is needed to support complex inventory management, meet various electronic/safety standards with multiple languages, and fulfill regional customers' demands. System integration has to overcome different traditional practices and regulations through organizational and informational integration. In co-operational view, global logistics is a very valid strategy and its necessity is growing because it accelerates invested properties, reduces logistical risks, allows market entry, and uses logistical experts.

### **Development of Global Logistics**

The first concept of logistics came from a report on agricultural distribution by Crowell in 1901. In 1916, Shaw divided management activities into production, distribution and fostering activities, subdivided the distribution activity into demand creation activity and material supply activity, and emphasized the importance of distribution (Shaw, 2912:56-75). Moreover, Clark (1992) put the marketing function and the distribution function together which concentrated the importance of logistics. In other words, he focused on the physical movement of goods as a part of logistics modernization. He asserted that the productivity of physical logistics can be improved by introducing capital, hardware and software technologies. These assertions were evaluated as having perceived physical logistics, which is a subordinate system of the logistics system and is an individual economic process.

Although the first use of the term “logistics” was in marketing, logistics was comprehensively researched for military forces during World War II and developed to business logistics in the 1950s. Logistics organizations were formed in the 1970s. Interests in efficient logistics systems have increased because suppliers have been required to

perform better in inventory management and product supply while navigating changes in consumption and reducing inventory costs.

In the 1980s, companies realized the importance of logistics management and started total logistics management from an integrated point of view. Globalization of companies, increased needs to rationalize logistics, and prevalence of information technology have led to the integration of logistics management through applications of information technology. In the 1990s, there was an increase in the introduction of information technology to the sectors of logistics. Companies strove to build up a logistics information system in order to reduce logistics costs and improve service (Clark, 1992:20-21).

### **Development Process of Logistics**

Logistics, as a part of business management of a company, has changed in its significance and roles depending on changes in the business management and environment. Demand exceeded supply until the 1950s and at the time, management activities of companies centered on the production of goods as shown in Figure. 1. To put it simply, a company that produced lots of goods for cheap prices was most competitive, so it was natural for companies to be very interested in production management. In the 1960s, there was a gradual change in the relationship between demand and supply. Finally, supply outreached demand which gave rise to the development of marketing concepts as an essential component of business management. The 1970s were characterized by companies' great attention to business strategies to advance into new markets and to expand businesses. With the appearance of domestic or multinational competitors in the 1980s, interests were given to intense competition to improve product quality. The scope of quality became widened in the 1990s so that creating value for customers was a focus of business management.

Companies tried to improve the quality of products and service in order to create values for customers (Choi, 1994:30).

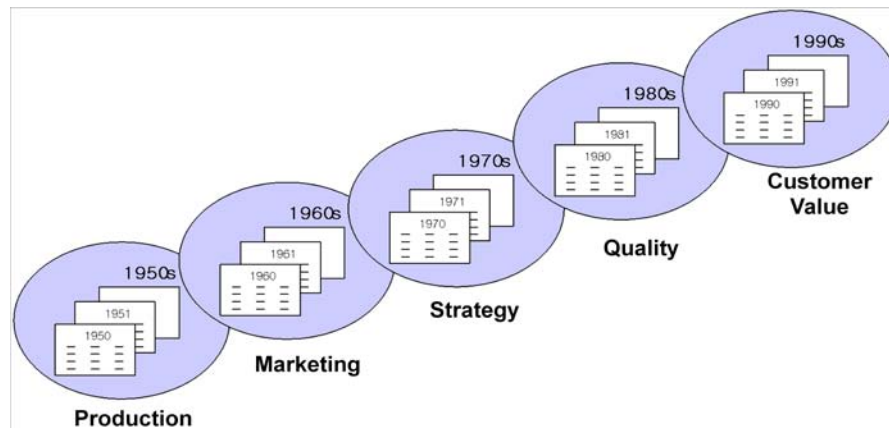


Figure 1. Change in Essential Components of Business Management (Choi, 1994)

With changes in the business management environment, there has also been a change in the approach to logistics. Transportation constituted the majority of logistics activities when demand exceeded supply. The service of logistics meant the linkage between terminals. At that time, the provider's power of negotiation was great and cost is what counted. Logistics providers focused logistics management on cost reduction by mass transport of freight with less concern for customer service. Development in production technologies led to increased productivity, thus synchronizing supply with demand. Accordingly, logistics extended from the concept of transport into that of physical distribution and developed to include inbound logistics and inter-company logistics as well as the traditional concept, outbound logistics.

The concepts of logistics extended in terms of space from logistics in a region to that of across a country. Logistics management changed from the management of individual entities and functions to integrated management of all the entities involved in logistics. Organizations were required to operate as an independent part of logistics management that manages and controls the other parts.

In the mid 1990s, the concept of physical distribution developed into total service concepts linking and involving selling, procuring, and production. The concepts focused optimization across the sectors. As shown in Table 1, there has been the development from physical distribution through logistics to supply chain management (SCM). SCM means managing a supply chain as a whole in optimal conditions by linking efficiently all the related entities involved in the supply chain. With the development, functions of logistics and information technology were taken into consideration to link all the activities involved in a supply chain (An, 2000).

Table 1. Development from Physical Distribution to SCM (An, 2000)

	Physical Distribution	Logistics	Supply Chain Management
Period	1970~1985	1986~1995	1996~
Purpose	Efficiency in physical distribution	Efficiency of logistics in a company	Efficiency across a supply chain
Objects	Transport, storage, material handling, packaging	Production, logistics, sale	Provider, manufacturer, wholesale, retail, customer
Means	Mechanization and automation of systems in physical distribution	Information systems in a company, POS, VAN, EDI	Partnership, ERP, SCM, Inter-company information systems
How to Utilize	Efficiency (Specialization)	Logistics costs + Service by agency Transport of multi-items, JIT, MRP	ECR, ERP, TPL
Consideration	Challenge to unmanned systems	Total logistics	Integrated working system

The process of physical distribution which is logistics to the current supply chain can be explained with the stages of integrated models related with production activities as shown in Table 2. The integrated models of a supply chain aim to devise strategies to build up new organizations by relocating information technologies, to reinforce competitive advantage of goods and service and to prepare organizations, through strategic alliances, with capabilities to fight against aggressive competitors. Supply chains were given attention first in the

1980s from production management and distribution management sectors, and electronic data interchange (EID) used in the information system sector promoted the development of supply chain management. (Christopher, 2000:212).

Table 2. Development Stages of Integrated Models of Supply Chain (Christopher and Towell, 2000:212)

	Stage 1	Stage 2	Stage 3	Stage 4
Period	At the beginning of the 1980s	At the end of the 1980s	At the beginning of the 1990s	At the end of the 1990s
Commitment of Supply Chain	Centered on goods	Toward markets	Centered on markets	Centered on customers
Type of Supply Chain	Lean function	Lean supply chain	Swift supply chain	Customized swift supply chain
Key Factor	Quality	Cost	Utility	Lead time
Important Factors	(a) Cost (b) Utility (c) Lead time	(a) Utility (b) Lead time (c) Quality	(a) Lead time (b) Quality (c) Cost	(a) Quality (b) Cost (c) Utility
Performance	(a) Stock value (b) Production costs	(a) Hours of input (b) Physical costs	(a) Market share (b) Total costs	(a) Customer satisfaction (b) Added values

The supply chain in the initial stage laid stress on manufacturing of goods and cared about reducing production costs according to lean manufacturing to lessen the scale of production. This leads to deteriorating product quality as well as reducing costs. The stress was moved from cost reduction to overall functions of a supply chain specific to markets. Recently with the customer-oriented management philosophies, companies have regarded the strategies of supply chain including logistics strategies as significant as to company positioning.

## Environmental Changes in Global Logistics

### Globalization of Logistics Industry

#### Changes in the Environment of Global Logistics

Globalization, development in information and communications technology, and trade liberalization has contributed to the integration of commodity markets, and the movement of international capital has increased at high speed.

Based on the current situations such as ever increasing trade across the world and globalization of companies, it is predicted that there will be notable increase in the world traffic of transportation and the demand for logistics globalization (Figure 2). Korea, which is highly dependent on exportation, is likely to be under the influence of those situations.

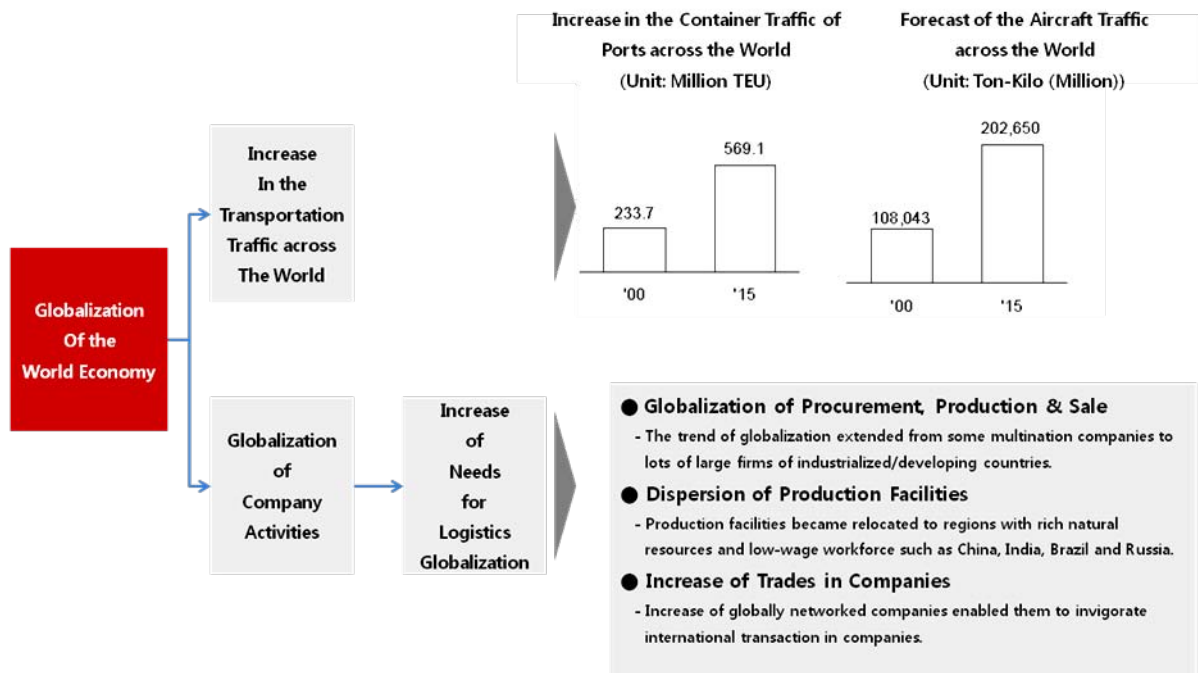


Figure 2. Changes in the Global Logistics Environment (Korean Maritime Institute, 2010)

The major global firms managed the flow of export and import activities putting focus on the production systems in their own countries. Production moved to foreign countries in the 1980s which highlighted the need for efficient logistics between foreign

countries (Figure 3). From the 1990s, logistics hubs were established to handle regional economic blocs.

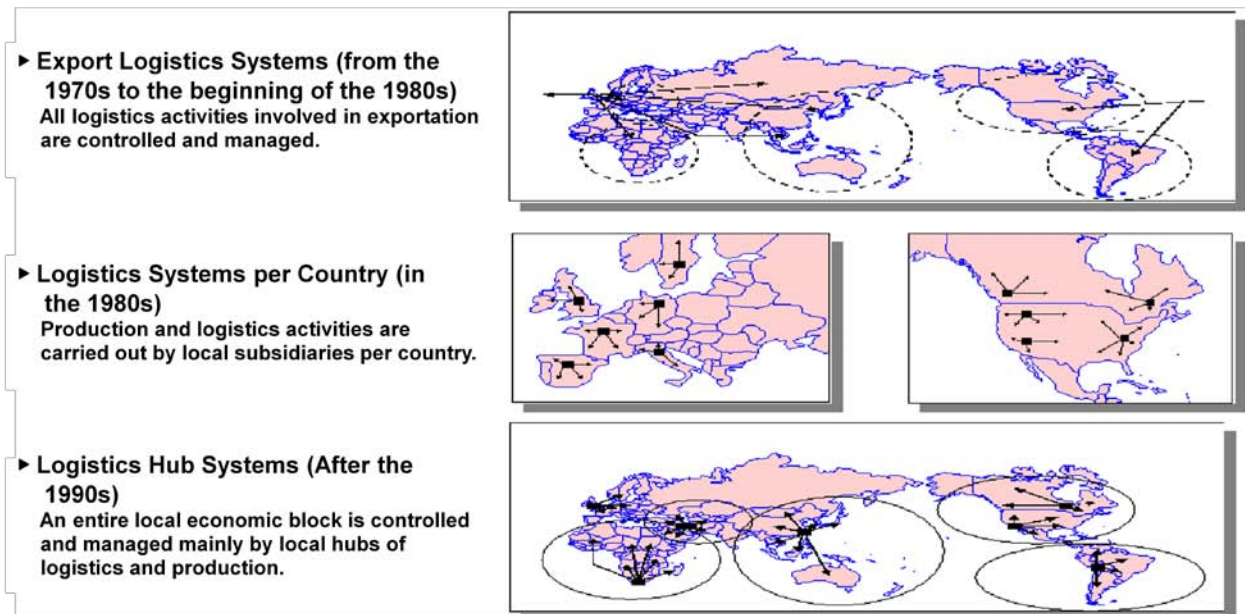


Figure 3. Change in Logistics Systems across the World (Korea Maritime Institute)

### Rapid Growth of the Logistics Market in Northeast Asia and Rise of Chinese Economy

The world economy before the 1970s had been maintained under the bipolar system consisting of North America (the United States, Canada) and the European economic bloc with the European Community (EC) at the center. Since that time, Japan, Korean, Taiwan, Singapore, and China have realized remarkable development reorganizing the Asian region as a new center of the world economy.

Asia is emerging as the hub of the container shipping market accounting for 45% of the total traffic across the world (The container traffic in Northeast Asia is 34% of the total.). The Northeast Asian countries have extended their logistics infrastructures competing seriously to hold the predominant position in logistics.

The Chinese economy has attracted capital for investment and plant production of global making it a production base of the world,. China is rising at a notable speed as a

manufacturing hub in the global supply chain. The economic position of China in the world has contributed to creating domestic and international demands of logistics, which is expected to be a new source of profits for global logistics companies. Figure 4 shows this graphically.

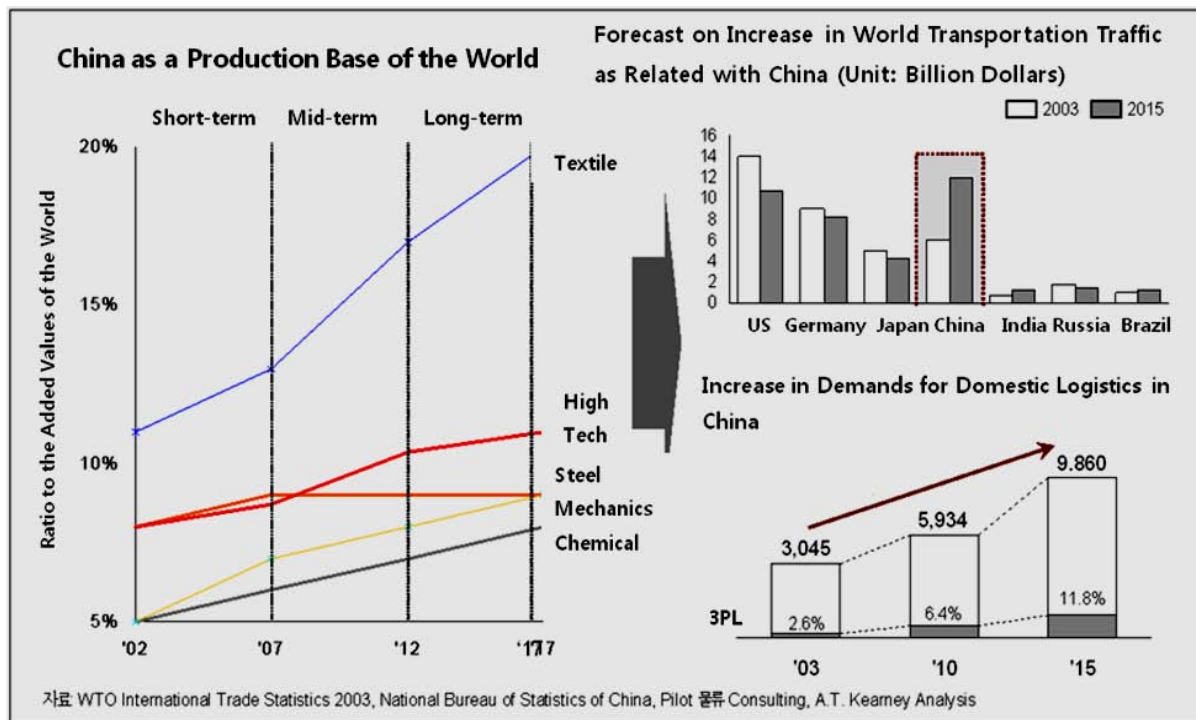


Figure 4. Change in Chinese Logistics Market (Kearney, 2003)

There has also been the forecast that a global logistic network will be reorganized centering on the world largest demand market, China. The supply chain in the country will be extended (Korean Maritime Institute, 2003).

## Necessities for Logistics Information Network Systems

### Proliferation of Electronic Commerce

Electronic commerce such as the internet and mobile networks have increased in almost every sector of the economy. The volume of electronic commerce across the world was estimated to be approximately 1,324 billion dollars in 2003.

The rapid growth of electronic commerce creates demands for shipping and the need for new logistics services differentiated from existing ones, such as same-day delivery, and frequent and less-than-carload deliveries. Logistics has shown great development across the world responding to these demands, and is expected to grow more than ever before (Korean Transportation Institute, 2007). Changes are as shown in Figure 5.

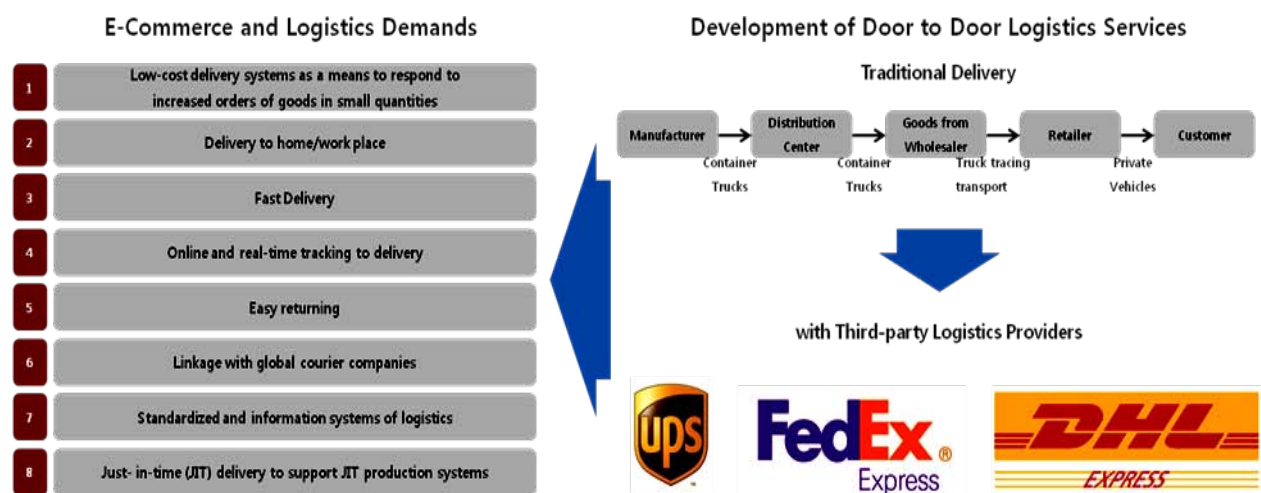


Figure 2-5. Relations between E-Commerce and Logistics (Kearney, 2007)

### Proliferation of Supply Chain Management (SCM)

Logistics activities of companies have recently had a tendency to integrate logistics processes between related organizations involved in a supply chain from the point of material procurement to the point of consumption by an end-user.

As seen in Figure 6, logistics companies have offered high-quality service to client firms according to strategies of supply chain management. This allows client firms to reduce logistics costs, seek new profits, and gain added value by focusing on core competencies. Unloading unessential assets allows companies flexibility in responding to environmental changes (Korean Maritime Institute).

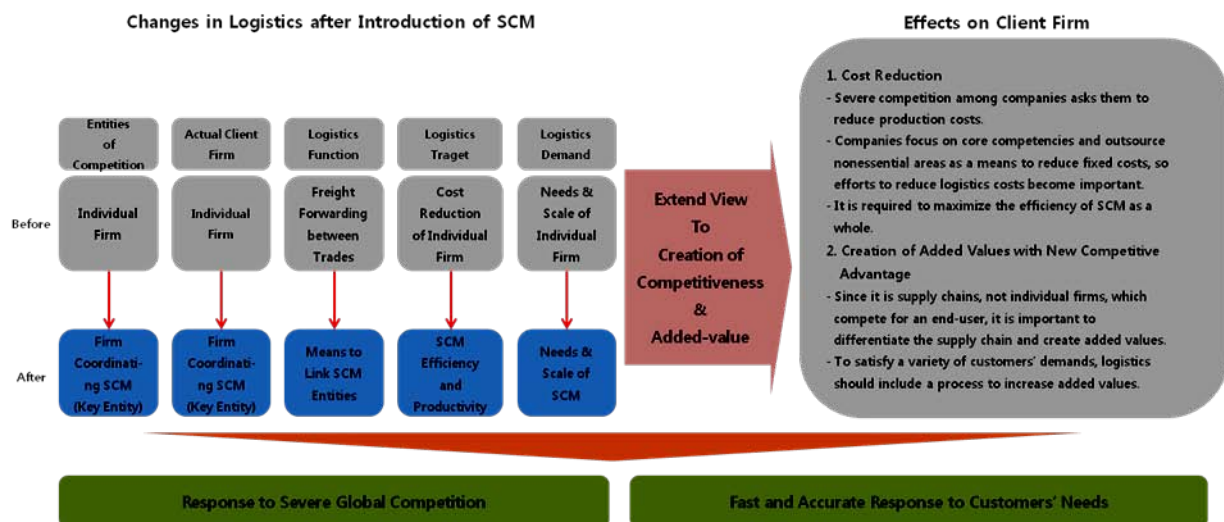


Figure 6. Improvement in Client Firm's Competitive Edge after Introduction of SCM (Korea Maritime Institute, 2007)

## Mega Corporations in Logistics Industry

### Development of Global Third Party Logistics Providers

The rate of 3PL utilization in the Europe and the United States manufacturing industries is 90% and 75%, respectively. There is an increase in companies which want integrated logistics service provided through a single contract.

According to a survey of 1,430 companies, carried out in the United States in 2006, those outsourcing logistics work to specialized logistics firms reduced direct logistics costs by 11.5%, costs for fixed logistics assets by 20.0% and delivery time nearly by 3 days. With the ever more serious competition across the world, companies have been required to concentrate on core competencies. Manufacturing and distribution businesses have

entrusted logistics work to specialized firms. This led to the rapid increase in demands for third party logistics. In Europe, logistics costs paid to the third party logistics providers accounted for 51% of the total logistics costs in 2002 and were predicted to form 77% of the total in 2007 (Lee Y, 2004:8-16) .

### **Monopolization through M&A and Fierce Competition among Businesses on the World Logistics Market**

The year 2004 witnessed a surge in mergers and acquisitions between third party logistics providers. For instance, Exel Plc acquired five businesses including Tibbett & Britten. UPS acquired Menlo Worldwide Forwarding. Regardless of such mega corporations, the world logistics market is still competitive. The largest 3PL, Exel Plc, had 11.6 billion dollars in sales in 2004. However, this formed merely 3.13% of the total sales, roughly 370 billion dollars, in the third party logistics market (Yoo B., 2007:1-20) .

### **Concepts and Characteristics of Third Party Logistics**

#### **Significance of Third Party Logistics**

Third party logistics defined for this research is logistics activities performed for a client companies for part or all of the logistics functions involved in a supply chain from the point of material procurement to the point of consumption of finished goods across the world. Since logistics services are carried out by third parties, they are called “third party logistics” (TPL), also called “total logistics” domestically (Baek H., 2004) . The term “third party logistics” started to be used widely from the middle of the 1980s when it meant that some of the logistics services are secured by outsourcing or a contract. Outsourcing activities were already being prevalent in Europe and the United States. The term “outsourcing” originated in “competition theory”. “Since there are limitations in company’s capabilities of workforce,

capital and facilities, these companies outsource such works as building management and cafeteria operation to external specialized enterprises” (Prahalad C., 1990) . Such outsourcing activities can be regarded as a component of business strategy based on competition theory. It was often seen in the market that some or a considerable part of logistics activities normally done by a company itself were entrusted to external logistics businesses, which was called logistics alliance, contract logistics or third party logistics. Third party logistics has been applied in lots of business sectors because it enables the company to get scarce resources from the outside, reduce costs and improve services for customers. The difference between third party logistics and other general logistics is that it is not limited to a domestic industry, but extends to any client firm in the world. TPL establishes an alliance through a long-term agreement for one year or longer and offers an integrated logistics service involving several logistics functions. Here, the third party means a company which is neither a dealer nor an owner of goods and is an outside source. TPL is also called “contract logistics” because of its quality is based on a contract (Park Y., 2003:6). Differences between third party and general logistics are summarized in Table 3.

Table 3. Difference between TPL and General Logistics (Jeong, 1998)

	TPL	General Logistics
Relationship with Client Firm	Contract-based, strategic alliance	Transaction-based, relations on order contracts
Duration of Relationship	Long-term (longer than 1 year)	Temporary or occasional
Scope of Service	Total logistics service	Services per function
Sharing of Information	Necessary	Unnecessary
Those who Own the Right to Adopt the Service	Top management	Middle management, personnel in charge
How to Adopt	Competitive contract	Optional contract

A company, before selecting a 3PL, generally receives proposals from several logistics businesses and selects finally one through a competitive bid. The party that makes a final decision is the top management. TPL, as a strategic alliance between a logistics business and a client company, requires the businesses to execute win-win strategies for a common goal. Therefore, sharing and exchanging information between them is essential. Sharing information, along with contract privacy, is considered to be the most important constituent of TPLs. Third party logistics, thus, can be defined as the relationship according to which a logistics-specialized business and a client company set up the common goals of reducing logistics costs, improving logistics services, conclude an agreement, share information, and establish a strategic alliance in order to achieve the client's goals.

It is, however, difficult to apply the mentioned concepts of third party logistics into the situations of Korea. Currently, Korea does not have qualified 3PLs. Korea does have domestic companies working inside client companies accomplishing logistics functions but without a logistics service mindset. Maximizing logistics service is their focus without considering other business processes which does not allow the client company to achieve ultimate goals of customer service. For instance, the domestic logistics agencies involving international courier service think that the services they presently offer started in the past and have continued until now. These current services vary only in scale with few customer specific modifications. This situation raises difficulties to explain current situation of Korea. To solve the difficulties, a review of advanced logistics markets is required along with a comparison of Korean domestic firms providing global logistics service with those of global logistics providers of other countries.

## Process of Development of Third Party Logistics

The development of third party logistics can be explained with external qualities, such as changes in departments or organizations, or explained with types and features of logistics services provided. To find the direction in which Korean third party logistics will develop, third party logistics development process needs to be reviewed. The process is not as simple as “logistics by a company itself → a logistics subsidiary → third party logistics,” but organized in a more complicated structure (Figure 7).

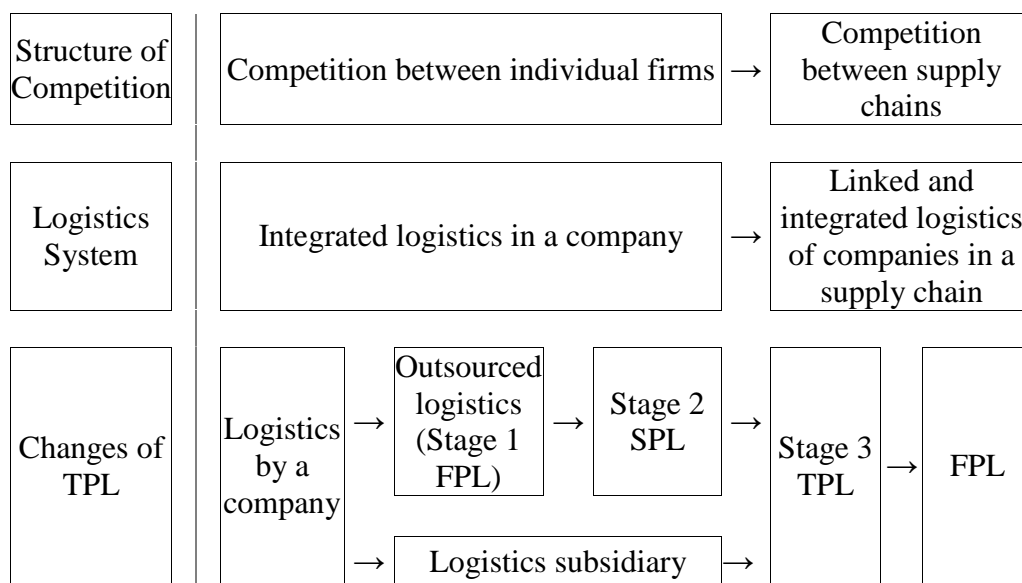


Figure 7. Process of Third Party Logistics Development (Go, 2002)

It has been well known that TPL was introduced as a new service in the logistics market in the 1990s and continued to grow in the United States. But, the logistics has its roots in the United Kingdom. The United Kingdom proclaimed in 1968, which was five years before joining the EC, that the regulations on competition of the truck industry would be abolished in accordance with the traffic laws. After that, in 1970, the regulations regarding quantitative participation according to the license system were abolished and the restrictions set on freight charge were also removed, thus decontrolling the freight charge. Those deregulations have something to do with development of third party logistics. Due to

the deregulation, the competition among the freight companies became ever fiercer with time. They could not but reduce costs at the level of operation. So, external specialized firms were required and TPL to optimize the whole system of logistics started to develop. In addition, the United Kingdom was first also in liberalizing the financial and the stock markets, which led companies to disclose business information. A series of the deregulation efforts provided fertile soil for companies to outsource part of their works.

Table 4 shows the current situation of the logistics markets. The composition of several types of logistics services enables individuals to predict the way in which Korean markets of third party logistics will develop. The prediction, however, requires special attention to the fact that the Korean markets of third party logistics can be divided according to the standards applied by Mercer Consulting in the other developed markets but they are qualitatively different from those advanced logistics market (Lee S., 2003:17) .

Table 4. Types of Domestic and Overseas Third Party Logistics (the Korea Chamber of Commerce and Industry, 1998)

Type	Features of Markets	
	Advanced Logistics Market	Domestic Logistics Market
Value-added Warehousing Provider	-Integrated Logistics -Dedicated Logistics -Exel, GATX, Menlo	-Developed TPL model -Logistics technology and system utility regarded as important
Non-Asset based Transportation Optimizer	-Integrated Logistics -Tech & Engineering -C.H.Robinson, Menlo, UPS	-High added value -High probability of development -CJ GLS, RESCO, Colombo, Yongma, TOLOS
Asset based Transportation Provider	-Dedicated Logistics -Dispatch, Routing -Ryder, Fedex, UPS, DHL, Hunt, TNT	-Simple transport -Early (original) TPL -Korea Express, Hanjin, Dongbang, Dongbu
Non-Asset based International Forwarder	-Freight Forwarding -Integrated Logistics -MSAS, Circle, Danzas AEI	-Forwarding (marine, air) - Early (original) TPL -Hyundai, Hansol CSN, Sebang, Pantos

Third party logistics providers are divided into the asset-based type derived from logistics businesses with assets such as freight and warehousing businesses and the non-asset-based type derived from forwarders or consulting firms. Asset-based logistics firms are, generally, larger than non-asset-based ones. These providers can be divided also according to the levels of provided services. Muller (1993) classified the businesses as contract logistics service providers into operation-based third party logistics providers and information-based ones, and later classified them again to the following 4 classes:

- 1) *Asset-based logistics* firms which own all or some of trucks, ships and warehouses. Based on the assets, they offer dedicated services.
- 2) *Management-based logistics* firms do not have transport vehicles and warehouses but provides logistics management or consulting service through a system database, being responsible for all or part of client's business.
- 3) *Integrated logistics* companies own warehouses or trucks. If necessary, they enter into a sub-contract with other logistics vendors, with no restrictions in using the assets.
- 4) *Administration-based logistics* companies offer administrative management (e.g. freight payment).

### **Characteristics of Third Party Logistics**

The logistics costs spent Korean companies accounted for 12.9% of the total sales as of 1997 which was higher than the United States (9.0%), Japan (6.4%), and Europe (5.5%). Although Korean domestic businesses have incurred large logistics costs, the quality of the logistics services received have fallen behind that of the other developed countries (the Korea Chamber of Commerce & Industry, 1998).

A high level of knowledge and technology is needed to revitalize the logistics industry in Korea. These improvements are needed to reduce logistics costs and improve the quality of service, thus maximizing the efficiency of logistics, and particularly, third party logistics. TPLs have been extended and specialized in industrialized western countries. They span not only transport, storage and information system sectors but also exportation, importation, and financial (e.g. payment gateway) areas. There are more than 150 types of services. The reason for this extension and specialization of service is that 3PLs have continually developed customized logistics services. Developing and offering customized service requires a high level of knowledge and technology. The biggest difference between TPL service and general logistics service is how much knowledge and technology is incorporated into the service. In other words, a company, when requested by a client firm to transport freight, provides general logistics service because the service does not require specialized knowledge. Whereas, a company which transports goods but also handles all logistics activities for a contracted period without receiving orders every time from a client firm is considered a TPL service. This type of service involves a specific type of knowledge (Kweon, 1999).

3PLs which offer client firms customized logistics services for each specific customer help the firms to be competitive in the market. This increases the efficiency of the whole industry of a nation. Therefore, TPL can be called a “high value-added industry” that concentrates on knowledge management and intellectual assets like technology, know-how, and information. The influences of TPL are shown in Table 5.

Table 5. Effect of Third Party Logistics in the United States and in Europe  
(Lieb and Randall, 1996; Peters, Lieb and Randall, 1998)

	US (1995)	Europe (1996)
Cost Reduction	38%	56%
Improvement in Personnel's Expertise & Market Knowledge	24%	29%
Increased Efficiency of Operation	11%	53%
Enhanced Customer Service	9%	49%
Heightened Concentration on Core Competencies	7%	51%
Improved Flexibility	5%	55%
Others	-	8%

The logistics business of corporations has shown such an extraordinary rate of growth higher than 30% every year, so it was made public that it would be unlikely for them to continue to grow by such a rate. But, Korea, where the percentage of outsourcing is relatively low, is expected to have the logistics sector developing by a higher rate of growth. There is evidence making the expectation possible. When the results of the surveys conducted by Korean Transportation Institute in 1997 and 1999 are compared with recent data, it shows an interesting forecast that TPL of an advanced type is going to proliferate in Korea. The corporations that planned to outsource logistics works to external firms increased, compared with those in 1999 (8.3%→17.9%). Additionally the number of corporations that would use such external firms for warehousing (11.1%→34.2%) and for diagnosing and planning logistics work (1.8%→10.4%) also increased compared to 1999. This means the nature of outsourcing has changed from being simple and temporary work, such as delivery and transport, to long-term and comprehensive. In addition, the interest of corporations in joint logistics was found to increase continually to 36.7% from 29.4% in 1999, and 28.2% in 1997. What they considered positively as a means of joint logistics was utilization of external logistics firms like 3PLs (Kweon, 1999).

### **III. Analysis of Cases of Domestic and Overseas Third Party Logistics Providers**

#### **Analysis of a Case of Global Logistics Corporation**

##### **FedEx Corporation**

###### ***General Features***

FedEx is one of the top international logistics corporations. FedEx handles 3 million cases of freight per day through a huge network of over 130 thousand cities in 220 countries. The regions that produce nearly 90% of the gross national product in the world are connected from door to door within 24 to 48 hours through various services such as customs clearance and guaranteed refund. The company owns more than 138,000 employees, offices in 50,000 areas, 671 airplanes and about 43,000 vehicles. The logistics center “Superhub” based in Memphis, Tennessee, United States of America is also the company’s headquarters and houses the database management system “COSMOS”. The Superhub and COSMOS are the backbone of the logistics infrastructure.

FedEx was founded in 1973 with 150 employees and 10 planes with a potential market for “air transportation service”. Since air freight was carried only by commercial air carriers which focused on passenger transport, the freight was incidental to passengers and always regarded as less important in every decision making process. Accordingly, air freight service providers were generally small-scale enterprises that loaded, unloaded, and carried goods on the ground under directions of the airlines.

The founder Frederick W. Smith Jr. established the company with the following ideas which are still reflected in all of the company systems including information systems.

- i) Establish a network of air service exclusive for air freight in a hub-and-spoke way.
- ii) Transport goods by air during the night, and deliver them on the morning of the following day.

- iii) Be responsible for the whole procedure of freight transport (high reliability, traceability of freight locations and conditions)

Freight and passenger transport are entirely different. They became separated with an air network only for freight which was built on the customer requirements of rapidity, reliability and traceability. These requirements which were impossible to consider before could now be satisfied. The hub-and-spoke method is a way by which goods to be delivered are carried by vehicles/aircraft to a central point and are sorted per region. Once sorted the goods are placed back on vehicles/aircraft and delivered to their final destination. This method contributed to forming a centralized logistics network, thus enhancing the efficiency of transportation.

The second principle, “transportation during the night and delivery on the morning of the following day” was an attempt to separate passenger transport generally made by day from freight transport. The nighttime transportation was useful in reducing forwarding charges, and reduced the clients inventory.

The third principle of responsibility for the whole procedure from receipt of a freight order to delivery to an end-user was an effort to gather and use all available freight data. This effort made it possible to provide information on freight conditions and locations for the end-users who eventually placed reliance on the corporation. Particularly, COSMOS traces and controls locations of goods from the point of loading on a truck to the point of delivery to an end user. This package tracking information is available any time through the Internet.

### ***Strategic Features***

#### ***Globalization, and Mergers and Acquisitions (M&A)***

In the market history, the beginning of the 1980s saw the hub of the manufacturing industry moving from an industrialized country to a developing country. FedEx did not

miss the chance and started to expand the international courier service for the purpose of logistics globalization. The company founded an Asian and Pacific branch and acquired Flying Tigers, an airline exclusive for freight. These moves pushed FedEx to the top of the logistics business in urban area growing at the highest speed in the world.

FedEx has made an effort of expansion and development, covering the whole area of logistics through globalization strategies. As a result, it obtained the right to operate its own airplanes by its employees with China-America lines in 1995. FedEx acquired the right to use the lines for China in March 1996. This was the first case that an American courier company had the right. FedEx now operates those lines eight times per week. In September 1995, the first hub in the Asia-Pacific region was established in Subic Bay, the Philippines. At last, the FedEx Asia One network enabled the company to have goods arriving at end user locations in Asian countries on the following day of ordering.

FedEx has more than 8,600 employees in about 32 countries in the Asia-Pacific region with headquarters located in Hong Kong. Local offices of the region are in Shanghai, Tokyo, and Singapore (FedEx, 2009).

### ***Marketing Strategy per Field (Field of Service)***

FedEx has continued to invest a huge amount of money in the IT sector since 1970, which totals more than 1.5 billion dollars. Customers not only can trace in real time the location of goods on the Internet but also can use an automatic program, “Shipping Manager”. With this program, customers can check estimated value, time required for delivery, draw up an invoice or a commercial invoice, select packing paper and apply for online service such as pickup, customs and tax estimation, and automatic payment.

### ***Supply Chain Management (SCM)***

FedEx offers an e-Business logistics management SCM solution for client companies by using IT tools including EC-Inventory Visibility, EC-Manufacturing Visibility, EC-Warehouse Management and EC-Return Management. Through the integrated SCM service, production schedule is derived from all orders in the ordering and operation process. Inventory data is updated for users to trace their order through the Internet. Plant and warehouse inventory supplied by FedEx can be controlled and distributed properly, which helps reduce logistics costs and allows swift delivery of goods to customers. These efforts result in heightened customer satisfaction, finally making FedEx more competitive in the market.

Organizations presently entered in a third party logistics contract with FedEx and supplied with logistics service by FedEx include Dell Computer and CISCO System, and online companies such as Amazon.com (an online bookstore) have expanded their businesses through the partnership with FedEx. It is well known, particularly to multinational corporations offering high-value and high-tech products, that they can control goods in stock and have them delivered to end-users in a fast and efficient way with FedEx.

### **Situations of Third Party Logistics Providers in Korea**

#### **Korea Express**

Korea Express has “Forays into Overseas Markets with ‘One-Stop Service’ and Provision of Logistics Consulting and Total Logistics Service”. This has allowed Korea Express to accumulate know-how over a wide range of logistics businesses. Its ‘One-Stop Service’ to handle the whole logistics process involves loading/unloading, storage and transport by skilled personnel, while maintaining its own infrastructure, helps companies to reduce logistics costs and shorten lead times.

Before and after being selected as a certified total logistics company, Korea Express received lots of questions or requests on third party logistics. The TPL Business Center consists of personnel specialized in loading/unloading, storage, transport, and delivery deals exclusively with logistics consulting and total logistics service. For instance, Korea Express was entrusted with package and transportation management at GM Daewoo's automobile semi-finished products export base "New KD Center", Korea Express also was used for inbound logistics of GM Daewoo. The income from those services was expected to total \$10 million after 2008 when the KD center would operate normally. There was also an agreement with Amway Korea regarding provision of services including package, warehousing, national delivery, and shop management which was estimated to amount to \$11 million

Korea Express is expecting another contract amounting to \$100 million this year. With this expected contract, Korea Express has invested in making its way into foreign countries. Also, the company has extended its network to be a global logistics business, based on its belief that global logistics corporations such as FedEx, UPS, Nippon Express, are well constructed in a fast and efficient "one-stop" system and have a solid network across the world (Son, 2006).

After founding a joint corporation in Vietnam at the beginning of 2007, Korea Express became the first Korean logistics business offering total logistics service involving transport, port works, loading/unloading, warehousing and customs clearance. In April, it opened the first international courier company in Manhattan, New York. It also established a strategic alliance with H Mart, a distributor in the United States. According to the alliance, Korea Express couriers will be installed in the H Mart shops and handle logistics work for the shops. H Mart is one of the largest Korean distributors in the United States, with 100 shops in lots of Korean societies.

Korea Express has made constant efforts to enter new markets overseas. For example at the end of 2006, the overseas network of the company has been extended to a single corporation established in Japan, 11 corporations in the United States, as well as increasing number and businesses in Germany and Hong Kong in 2007. Korea Express's international logistics sector, which accounted for 25% of the total sales, is expected by the company to grow 50% in the long run. Last year, Korea Express had \$1.27 trillion in sales and \$78.6 million in operation profits. This year predictions of total sales are \$2 trillion by taking into account the synergistic effect from the investment agreement of Mergers & Acquisitions (M&A) with Kumho Asiana.

As for the terminals of Korea Express, it has a single hub terminal and 4 sub-terminals. The hub terminal is in Daejeon and the Bugok-Metropolitan area with sub-terminals in Yangsan-Yeongnam, Gwangju-Honam and Namyangju. The company has been flexible in operating a hub-and-spoke logistics system with the Daejeon hub terminal at the central point of the system. A point-to-point system supplements the hub and spoke system for swift and efficient sorting and delivery of goods during special seasons like New Years and Chuseok (the Korean Thanksgiving Day),.

The hub terminal of Korea Express is located over an area of nearly 20 thousand pyeong (approximately 6,060m<sup>2</sup>) in the Daedeok-gu, Daejeon city. Even though other competitors have recently opened their terminals in Daejeon, the company has been faster in the market, for example by installing automatic sorters in 1997.

The Daejeon hub terminal is famous for top-class facilities, such as 20 unloading conveyors and 30 loading chutes, and especially the divert-type automatic sorter of Sandvik Co. which is capable of handling 20 thousand items per hour and 420 thousand per day. The Namyangju terminal, which was completed in July last year, is a sub-terminal spreading over the area of 2 thousand pyeong (approximately, 606m<sup>2</sup>) and is responsible for goods to be

transported to the northeastern districts of Seoul including Namyangju and Guri (Korea Express, 2009).

In addition to the existing hub terminal in Eupnae-dong, Daedoek-gu, Daejeon city, the second Daejeon terminal will be completed at the end of September, which is planned to be 4 thousand pyeong (approximately, 1,212m<sup>2</sup>). The Honam hub terminal is being built in the center of logistics of the Honam region, i.e., Gwangju city, which will be a 5-story building with a gross area of 909m<sup>2</sup>. The Gwangju terminal is designed to handle 40 thousand boxes per day so it can cover various services of third party logistics when it is completed in mid-September. This terminal is, beneficial to courier and third party logistics services in the Honam region.

Korea Express laid the foundation stone in April 2009 to build a terminal in Gasan-dong, Geumcheon-gu, Seoul as a hub terminal covering the metropolitan area. The Gasan-dong terminal will be a large facility with 9 levels above the ground and 2 underground levels with an area of 3 thousand pyeong (approximately, 909m<sup>2</sup>). This area is much larger than metropolitan-area terminals operated by Hanjin Transportation and Hyundai Logistics. The 5-story metropolitan-area terminal with a gross area of 7 thousand pyeong (approximately, 2,121m<sup>2</sup>) is being constructed to have high capabilities of sorting and warehousing and offer a variety of third party logistics services. The total logistics services of the company including delivery service are predicted to improve when the construction is complete. The terminal is located in a major traffic point connected with the Seobu highway and the Nambu beltway and has nearly 400 parking spaces.

The terminal in Gasan-dong is presently under construction with a goal of being completed in the first half of 2010, with an automatic sorter handling 40 thousand boxes per day. Korea Express established a strategy to cover the ever increasing volume of goods and provide differentiated service in the metropolitan area, for the purpose of winning back the

leading position in the market. For that purpose, a twin-hub system was devised that involves the hub terminal in Daejeon and the newly-built terminal in Gasan-dong (Korea Express). It is likely that since the majority of delivery orders take place in the metropolitan area, the company established the strategy to link the sub-terminal in Gasan-dong, Seoul with the hub terminal in Daejeon, thus ensuring rapidity and efficiency of service.

Korea Express has made efforts to enhance facilities on a national scale to include the Yeongnam and the Honam regions by building a 3 thousand pyeong (approximately, 909m<sup>2</sup>) terminal in Daegu. The company is expecting its delivery service to be faster and more flawless because enhanced facilities will improve its capability of handling more freight per hour.

KE Information Technology Co., which manages an essential part of terminal operations, built up the New Delivery Information System of Korea Express. This is a real-time information system that enables users to receive delivery orders, trace freight, register invoices, and manage and control terminals. With the system, freight information is exchanged in real-time through a network involving the headquarters in Seoul and all the branches across the country, including the Daejeon terminal, which has improved the logistics service efficiency of the company.

## **Hanjin**

The logistics solution of Hanjin Transportation involves the latest devices such as “handy terminals”, Personal Digital Assistant (PDA) through which logistics data is transmitted in real-time to the computer system “e-HANEX” for delivery. The operation systems, “Warehousing Logistics System” and “Digital Logistics System”, and administrative systems including Customer Relationship Management (CRM), Supply Chain Management (SCM), and Enterprise Resource Planning (ERP) process logistics data which is transformed to be suitable for extensible markup language (XML) and electronic data

interchange (EDI). This information is then provided to customers who need such data (Hanjin Express, 2009).

Hanjin Transportation operates hub terminals as logistics bases per region. Between the terminals, it uses large trucks to handle line-haul operations according to a specific schedule. The number of terminals per region is based on the logistics system corresponding to the region. The company has a nationwide network with 50 logistics terminals, 400 business shops, and 3,000 offices which handles on average 3 million boxes per month with about 2,500 vehicles.

Hanjin GLOVAN is a project set up by Hanjin Group to enhance the competitive edge of the national industry by integrating logistics business with information communications. This strategic business initiative combines high-technology and scientific methods into the domestic logistics industry to improve material handling capacity and linking domestic with overseas logistics networks. In August 1994, Hanjin started the model operation of GLOVAN with 20 companies in the Gyeongin region involving manufacturing and freight businesses. Since March 1995, Hanjin has continued to offer about 20 logistics services including shipping EDI, trade, domestic air freight linkage, airline ticket issuance, automatic booking of delivery, financial adjustment, and warehousing and vehicle intermediary services. Hanjin GLOVAN has provided service to 424 businesses including manufacturers, carriers and intermediaries. It has offered total logistics service spanning shipping, land carriage and air transport by using logistics and delivery data supplied by domestic/overseas information providers. In 1999, the company built a new information system to increase the number of services in the transport division. The GLOVAN service is divided largely into logistics information service and logistics business service. The logistics information service includes processing logistics data, providing information and communications networks. The logistics business service works to connect logistics

businesses with client firms so that the service can help satisfy the needs of logistics resource consumers and suppliers while ensuring maximum utilization of the resources (Korea Express, 2009).

Hanjin Transportation recently said:

Only a couple of courier companies could survive in the market of Japan, which is a developed country in terms of courier service. Hanjin will strengthen its competitive power by offering differentiated courier service with up-to-date systems. (Add citation with page number)

Hanjin is the first company in Korea to do courier service for personal or company freight. At the time there was little understanding of courier service. Hanjin ran a TV commercial for the brand “Pabalma” for the first time in the industry and tried to raise the brand awareness. But, the business during the initial days showed a poor record. The yearly volume of goods handled during 1992 was about 880 thousand boxes, but the freight ordered by customers was far less than half that volume. “We had to spend an enormous amount of money building up the logistics system and improving service awareness once, a truck was used to transport a single box from Wonju to Gangneung..” (Cite with author, year:page number).

This year the company is expecting the volume of courier service to be 50 to 60 million boxes, which is 60 times as many as the volume 14 years ago. The service also increased in quality. Various services have been added and complemented for the purpose of ‘100% customer satisfaction.’ For correct delivery in time, geographic information system (GIS), global positioning system (GPS), and a routing system were adopted. For convenience of the service, PDAs were used for entering and searching for data in real-time.

A ‘real-time logistics information transmission system’ started to operate in September 2008 which displayed the location and time of freight arrival to the end-users. When several goods are delivered to a person, the transportation route is adjusted to deliver

all goods at once using the shortest route. PDAs with GPS and communication functions were supplied to nearly 1,000 delivery employees in charge of Seoul and metropolitan areas.

The partnership entered between Hanjin and Korea Train Express (KTX) in November 2007 enabled the 'same-day delivery' to five regions including Seoul, Daejeon, Dong-Daegu, and Busan. Earlier in July 2008, same-day delivery of imported goods to Seoul was introduced. This partnership allows freight from Los Angeles, Oakland, Dallas, Toronto, Vancouver, and other regions in the Americas to be delivered to end-users on the day of arrival if the goods go through customs by 10:00 am at the Incheon Airport. To ensure the same-day delivery of such international goods, Hanjin placed personnel and shuttles for international freight in the 4 terminals at Guro, Seocho, Dapsipri, and Gimpo, so a same-day delivery system was established across 25 districts. The delivery check system, "E-HANEX", was enhanced for customers to trace international goods by using the internet. E-HANEX and the same-day delivery service of international freight is predicted to extend to cover some of the metropolitan areas including Ilsan and Bundang. By using this system, Hanjin is able to issue receipts of cash payment to customers for the first time in the industry. This has allowed Hanjin to increase profits to which it has donated 1% of the profits from courier orders placed through the Internet to social welfare facilities.

Hanjin operates 57 terminals across the country which include hub terminals in 9 regions including Guro and Daejeon, and 48 sub-terminals. Hanjin has set up a strategy to make constant investment in main logistics bases to secure efficient service. For instance, Hanjin has built terminals in Donghae, Gangwon-do, and will complete terminals in Gwangju, Jeolla-do with a mega hub terminal in Daejeon. The reason for Hanjin's efforts for terminal expansion is that the number of sub-terminals is proportional to the company's capability of collection and delivery (Korea Express, 2009).

A Hanjin official stated that increasing the number of terminals increases customer service. However, the cost of building and operating terminals must be balanced with profits.

The increase of terminals leads to a decrease of the area operated by an individual terminal and so helps ensure an absolute time for collection and delivery, finally improving the ability to offer service. Increasing terminals is critical in improving the collection and delivery service, but also can be the burden of costs and increased investment. Hanjin Transportation is planning to balance terminal expansion and costs according to reasonable standards for areas under the control of terminals.

Recently opened, the Gwangju terminal has successfully played a role as an advance base for the logistics service in the region. This facility has 2 stories above ground and 1 underground level and covers 4.2 thousand pyeong (approximately 1,272m<sup>2</sup>). The Gwangju terminal cost \$5.9 million to build. It is equipped with the latest equipment such as an automatic sorting system capable of handling 80 thousand boxes of goods per day, and a dock facility where 70 vehicles can be loaded and unload at the same time.

The increase of sub-terminals allowed us to enhance the capacity of the hub terminals. We are planning to reinforce an integrated system based on the hub terminals, taking into account the increased sub-terminals (Hanjin, 2009).

For this reason, Hanjin has constructed a mega hub terminal in Daejeon where an automatic sorter was introduced to strengthen the ability to sort and produce freight. Efforts to increase the rate of loading of line-haul vehicles were made to improve cost competitiveness.

The total logistics center of Hanjin Transportation recently completed in Daejeon is famous for the largest-scaled equipment in the courier service industry. This equipment can handle 21 thousand boxes of goods per hour. Additionally, a state of the art automatic sorting system was introduced that can reduce logistics costs and enable fast delivery to end-users, eventually ensuring high quality service.

The Daejeon total logistics center of Hanjin is a structure with 5 stories above ground and 1 underground level with the gross floor area of 5.88 thousand pyeong (approximately

1,781m<sup>2</sup>), spreading over 14,555 thousand pyeong (approximately 4,410m<sup>2</sup>). Construction took 17 months starting May 2005. The Daejeon center is predicted to be the hub of the logistics for the central district.

The Daejeon mega-center is equipped with largest and highest-quality facilities among the domestic logistics terminals. For example, the center has 2 automatic sorting lines (15 thousand boxes per hour), 1 manual sorting line (6 thousand boxes per hour), 16 unloading conveyors, 32 loading conveyors, and facilities to handle 76 vehicles at the same time and additional warehousing space. Especially, the up-to-date automatic sorting system of the center is fastest for sorting goods collected from lots of areas and forwarding them to end-users across the country. This shortens the time of processing and reduces logistics costs.

For service differentiation and customer's convenience, Hanjin has planned to operate large-scaled logistics bases such as the Daejeon total logistics center with wireless PDAs, automatic routing system, and the latest reservation system. This allows not only basic services including loading/unloading, warehousing, transport and returning but also special package service and real-time information services such as inventory control and delivery information. By offering these services in a "one-stop" process, the company is expecting its total logistics service to be enhanced. Hanjin constructed a terminal in Gwangju city last year and is increasing investment in the major logistics bases including the Gimpo logistics center and the Incheon GM Daewoo KD (Knock Down) center.

## Competitive Factors of Global Logistics Businesses Found through Case Analysis

Since the 1980s, global logistics corporations have pushed forward with various strategies for improving their competitive edge in logistics. The competitive factors of such global logistics corporations are divided into for competitive factors shown in Table 6.

Table 6. Competitive Factors of Global Logistics Businesses

Competitive Factors	Description	Businesses
Global Service	<ul style="list-style-type: none"> <li>- Be able to respond to client firms across the world.</li> <li>- Build up a network of logistics bases like corporations in other countries.</li> <li>- Extend the areas of service through strategic alliance, M&amp;A, etc.</li> </ul>	- DHL, FedEx, UPS, TNT, Schenker, Kuehne & Nagel, Panalpina, Expeditors
Establishment of SCM	<ul style="list-style-type: none"> <li>- Offer a “one-stop shop service” from material purchase to delivery to end-users by applying SCM.</li> <li>- Develop solutions of the company itself, applicable to comprehensive businesses.</li> <li>- Provide integrated services involving air freight, shipping, land carriage, warehousing, loading/unloading, customs clearance, and financial businesses, etc.</li> </ul>	- DHL, FedEx, UPS, TNT, Schenker, Kuehne & Nagel
Development & Utilization of IT	<ul style="list-style-type: none"> <li>- Use up-to-date information technologies to ensure rapidity and punctuality.</li> <li>- Provide customers the visibility of the supply chain as a whole.</li> <li>- Make constant investment in improving logistics service and in developing IT.</li> </ul>	- DHL, FedEx, UPS, TNT, Schenker, Panalpina, Expeditors
Establishment of Infrastructure	<ul style="list-style-type: none"> <li>- Build up business shops, facilities and vehicles across the world.</li> <li>- Continue to invest in completing the infrastructure of new markets.</li> </ul>	- DHL, FedEx, UPS, TNT, Schenker, Kuehne & Nagel, Panalpina, Expeditors

First, they offer global services. Global third party logistics providers have established networks and infrastructures over the world through mergers and acquisitions, strategic alliances, or other measures so that they could respond to client firms across the

world. They also offer a variety of competitive services, not similar and limited to distribution services.

Second, they establish a supply chain management (SCM) system for total logistics service. The SCM systems built by global logistics corporations changed the types of service they offer from functional and skillful distribution to the “one-stop” service involving material purchase to sale to end-users. They also offer specialized logistics services applicable to lots of business sectors, which eventually made client firms want to use total logistics services.

Third, they provide state-of-the-art services by continually developing and investing in information technology (IT). Global third party logistics providers have invested an enormous amount of money in IT to adapt to new logistics markets such as mail order businesses and e-commerce. They offer customers timely service. By using developed technologies, they ensured the visibility on the supply chain which contributed to an increase in customer’s reliance on such companies.

Last, they build their infrastructure for service improvement. With changes in the logistics markets across the world, global third party logistics providers continued to expand and invest in infrastructures. This allows them to improve their abilities to provide customized services to client firms that try to enter new markets.

## **IV. Strategies to Enhance Competitive Power of Global Third Party Logistics Providers of Korea**

### **Overview of Comparative Survey**

#### ***Preparation of Questionnaires***

A questionnaire was drawn up with questions on the development of third party logistics providers in this changing logistics market and those extracted from the related literature. The components of contemporary logistics that are characterized by globalization, systematization, and information and communications were used as an assessment index in drawing up the questionnaire.

The questionnaire was constructed on the basis of works performed by a single global corporation, and those not performed functions were also added to the questionnaire so that total logistics functions global corporations have carried out, their capabilities of carrying out them and a measurement index could be found out. For respondents' easy understanding, works generally performed by logistics companies were provided as an example, below the questions. The questions were made based on the following items, and the respondents were led to relate their answers with the items.

#### **Basic Items of the Questionnaire**

- (1) General matters on the scale of the company
- (2) Regions to which service can be provided, with the current trend of globalization (megapolises)
- (3) The scope of services offered by global third party logistics providers
- (4) Company's capability of supplying SCM (TPL)
- (5) Company's capability to offering IT

The questionnaire consisted of short-answer and essay questions rather than multiple-choice questions, and the questions were those of a professional level that can be answered only by personnel (higher than a head of a team in position, executives included) experienced in relevant works (global third party logistics, SCM, information and communications, etc.).

### ***Selection of Companies Questioned***

Through research into the related literature, 8 corporations equipped with global networks, SCM, IT and infrastructure offering service in Korea, were selected as the respondent companies: FedEx, DHL, UPS, TNT, Schenker, Kuehne & Nagel, Panalpina and Expeditors, and 7 domestic companies with third party logistics, international express delivery, domestic courier service, SCM and IT were selected: Korea Express, Hanjin Transportation, Hyundai Logistics, CJ GLS, Sedex (Shinsegae Logistics), Dongbu Express and Nonghyup Logistics.

### ***Schedule and Methods of Survey and Interview***

#### ***1) Questionnaires***

The questionnaires were drawn up on the competitive factors found through the case analysis as mentioned in the previous chapter on November 2, 2009 and sent to the selected global and domestic third party logistics providers by e-mail on November 6, 2009.

The completed questionnaires of the 8 global third party logistics providers and the 7 domestic ones were received until November 11, 2009. After the questionnaires were collected, those which were completed and selected to be interviewed: They were 3 global corporations, FedEx, DHL, UPS, and 4 major domestic firms, Korea Express, Hanjin, Hyundai Logistics and CJ GLS.

## 2) Interview

The interview was made by telephone from November 11 to November 30, 2009, with the responsible personnel of the 3 global corporations and of the 4 major domestic firms by the order of questionnaire reception or according to the answers of the questions, about the information the researcher had arranged in advance.

The data obtained during the first interview with each of the companies were collected, and for those that were incomplete, a second interview was conducted.

The interview who concerned with the following topics; 1) global service, 2) composition of an infrastructure (devices excluded), 3) Supply Chain Management (Total Logistics Service) and 4) IT (rapidity and visibility) and so included concrete strategies of the global corporations for future businesses and concrete current and future strategies of the domestic firms to compete with global corporations in the market.

Table 7 shows those companies questioned and interviewed and the times of questionnaire collection and interview.

Table 7. Those Questioned and Interviewed and the Times of Questionnaire Collection and Interview

	Company	Questionnaire Collection	Interview
Overseas Companies	FedEx	09-11-2009	20-11-2009
	DHL	08-11-2009	16-11-2009
	UPS	09-11-2009	14-11-2009
Domestic Companies	Korea Express	11-11-2009	11-11-2009
	Hanjin	11-11-2009	11-11-2009
	Hyundai Logistics	21-11-2009	29-11-2009
	CJ GLS	19-11-2009	28-11-2009

Note: Those questioned and interviewed were experienced personnel higher than a head of a team.

## **Survey Analysis of Third Party Logistics Providers (Domestic/Overseas)**

### ***General Conditions: General Conditions of Companies (Company Size and Infrastructure)***

#### ***1) Global Corporations***

The 3 global corporations have the common features that hundreds of thousands of people across the world are employed directly or indirectly to do logistics services. Their yearly sales ranged from 4.7 billion dollars to 87 billion dollars (2006). The main vehicles used in doing such service are airplanes and trucks, with the number of airplanes at a maximum of 671 and the maximum number of trucks at 93 thousand. They have established business alliances in order to link and offer marine services and performed Mergers and Acquisitions (M&A) to own a fleet of ships. All of them have business offices, warehouses and container yards so as to provide optimal logistics services to the world. Such global corporations have extended a business network to new markets by investing in the markets on the basis of an existing infrastructure and have invested and extended the existing infrastructure.

The top global corporation in the world market is DHL, followed by FedEx and UPS. They are seeing the present as the time they should take off strategically to new markets, such as China, Brazil and Indonesia, in order to be the world-best global corporation, and so have built up business networks and dispatched people in those countries and have striven to predominate over potential markets.

#### ***Domestic Companies***

The factors deciding the competitiveness of a company in global logistics are its capability of ensuring a specific volume of freight from a global aspect, a global information network and the capacity of transport vehicles. The general conditions of the domestic companies as shown in Table 8 make it unlikely for the companies to be globalized: The

number of employees of a domestic firm is a fiftieth of that of a global corporation, and the sales of a domestic firm are an eightieth of that of a global corporation. The number of transport facilities of the domestic companies is also far less than that of the global ones. Logistics as a capital-intensive business requires sufficient capital, but there is 30-time difference between the capitalization of the domestic and the global companies.

Even though to be a global corporation seems demanding for the domestic businesses, Korea Express (Kumho Asiana), Hanjin (Korean Air, Hanjin Shipping) and Hyundai Logistics (Hyundai Merchant Marine) are hoping to provide global service of third party logistics through the cooperation with a parent company and/or affiliates – for example, parent or affiliate's support for ships or airplanes. The non-asset-based business CJ GLS has pursued globalization through strategic alliances with international logistics companies.

Table 8. Comparison of Domestic and Global Companies Questioned (Interviewed)

		Overseas Company			Domestic Company			
Name		FeDex	DHL	UPS	Korea Express	Hanjin	Hyundai Logistics	CJ GLS
No. of Employees		143,000	502,500	430,000	4,363	2,117	1,846	1,250
Sales		\$20.6 billion	\$87 billion	\$4.75 billion	\$1,300 billion	\$750 billion	\$560 billion	\$200 billion
Equipment	Airplane	671	420	579	70	137	0	0
	Truck	45,000	76,200	93,637	3,960	2,500	3,000	2,800
Services	Air	○	○	○	○	○	○	○
	Shipping	○	○	○	○	○	○	○
	Land	○	○	○	○	○	○	○
	Warehousing	○	○	○	○	○	○	○
	Loading/Unloading	○	○	○	○	○	○	×
	Customs Clearance	○	○	○	○	○	○	×
	Financial Support	○	○	○	×	×	×	×
Serviced Areas	No. of Serviced Areas	215	225	200	118	120	180	20
	No. of Overseas Branch Shops	43,500	6,500	22,961	46	37	25	17
	Europe	○	○	○	○	×	○	×
	Asia	○	○	○	○	○	○	×
	Africa	○	○	○	×	×	×	×
	Oceania	○	○	○	×	×	×	×
	North America	○	○	○	○	○	○	○
	South America	○	○	○	○	×	○	×
Areas Applying SCM (Domestic / International)	Estimate	○	○	○	○	○	○	×
	Packaging	○	○	○	×	×	×	×
	Invoice	○	○	○	○	○	○	○
	Pickup	○	○	○	○	○	○	×
	Tariff	○	○	○	○	○	○	×
	Collection / Warehousing	○	○	○	○	○	○	○
	In-Country Tracking	○	○	○	○	○	○	○
	International Tracking	○	○	○	○	○	○	○
	Info. on Customs Clearance	○	○	○	×	×	×	×
	Transport / Delivery	○	○	○	×	×	×	○
Areas Applying SCM (Domestic / International)	Sending of Package	○	○	○	○	○	×	○
	Automatic Settlement of Charges	○	○	○	○	○	×	×
IT	Tool	Cosmos Super Tracker	Easy Call	Package Tracking System	GLOPS	Digital Logistics System	HydexII	GIANT
	TMS	○	○	○	○	○	○	○
	OMS	○	○	○	○	○	○	○
	EDI	○	○	○	○	○	○	○
	E-SCM	○	○	○	×	○	○	×
	RFID	○	○	○	×	○	×	○
	Tracking	○	○	○	○	○	○	○

## **Globalization: Geographical Range (Regions Where Service is Provided)**

### ***Global Corporations***

All of the 3 global corporations are offering logistics services across the world. In 2003, both FedEx and UPS were providing service in the United States, Atlantic areas and Pacific areas, and DHL was supplying service of its own in the United States, European countries and the Middle East. And, each of the global corporations have offered specialized services in other regions than the United States. FedEx has put focus on Pacific areas, South America and Asian countries; UPS has concentrated on Atlantic, Pacific and European areas; and while taking a dominant position in offering service in Europe and the Middle East, DHL has prepared for globalization.

What should be noted among strategies of international corporations for globalization is that for the last few years, global logistics companies have gone beyond the simple express delivery market to provide integrated services through mergers and acquisitions of various logistics businesses. The typical example is Deutsche Post DHL, which is the world's leading logistics group of the Germany's postal service provider, Deutsche Post. Deutsche Post has concentrated its main force on supplying logistics by acquiring or merging with major logistics firms in the shipping, land carriage or air transport sector. The range of DHL's service provision is shown in Figure 8. This trend for globalization is not something unique to the postal service provider of Germany. UPS, which is a comprehensive logistics provider representing the U.S. logistics industry, has focused on integrated logistics services involving shipping, land carriage and air transport by acquiring the forwarders Menlo Worldwide and Fritz, and the provider of automobile logistics systems, Vector.



Figure 8. Range of DHL's Service Provision across the World

In 2007, it installed business offices across the world and extended its global network and the range of service provision by enhancing its infrastructure and concluding strategic alliances and Mergers and Acquisitions (M&A). The regions supplied with international express delivery and air freight service were changed to those provided with third party logistics, and the number of service countries increased to 200, that of service cities to 120 thousand and that of overseas business offices to 43 thousand. In other words, the company developed to be a global third party logistics provider that offers total services linked with 80% of the entire logistics in the world.

### ***Domestic Companies***

The fact interfering most with globalization of domestic companies is that since their logistic market is so limited, the basis on which the logistics industry develops is weak. Domestic third party logistics providers that have difficulties becoming a specialized business have been less liked than second party logistics providers of client firms (2007), and even what they offered as a third party logistics provider was unsatisfying to client firms. This

situation naturally led to the domestic logistics businesses; lagging development, compared to global businesses.

Even though the 4 domestic logistics companies mentioned above have called themselves “global logistics businesses,” they rather look like “a big frog in a small pond” regardless of what they did directly or indirectly as a global logistics business. As shown in Table 9, the regions to which a company offers service are far fewer in the domestic companies than in the global corporations, and even in the regions to which the company provides service, what the domestic companies provide is simple logistics works, not total logistics service.

Table 9. Situation of Domestic Third Party Logistic Providers on IT Investment

	2006	2007	2008	Remark
Korea Express	41	70	80	Investment in the business of GM Daewoo in 2007
Hanjin	34	50	68	Investment in the business of Nexen Tire in 2007
Hyundai Logistics	28	10	20	Investment in KT and other businesses in 2006
CJ GLS	No answer	100	No answer	Starting to do international special delivery in 2007

It was found out through this study that the domestic firms had few strategies to enter overseas markets and their performance in those markets was inefficient. The methods to expand the logistics business include “entering into an overseas market and then extending a network,” which is a relatively passive way often done by domestic companies, and foray into a foreign market through M&A or strategic alliance with a domestic or foreign company. But, no domestic companies were found to have obtained such results. What is, however, the most efficient attempt for globalization is the merger of CJ GLS with Accord Logistics (a company of Singapore) at the beginning of 2007.

In other words, domestic companies which want to grow to be a global logistics corporation have to make such efforts as M&A and strategic alliance as a means for both

globalization and enlargement, which will also help them to get out of inactivism, conservatism and the tendency for no investment.

It might be unimaginable that domestic third party logistics providers will outdo global third party logistics firms occupying the logistics bases across the world. Of the companies interviewed, 2 domestic ones predicted that entering into developing countries, such as China, India and Brazil, would be more efficient than entering into the areas occupied by global corporations. We can see Korea Express's global network strategy map in Figure 9.

If domestic third party logistic providers delay entering into Asian markets or at least the Chinese market, global corporations will dominate the Chinese market and accordingly impact greatly on the Korean market, thus eventually displacing the domestic providers.

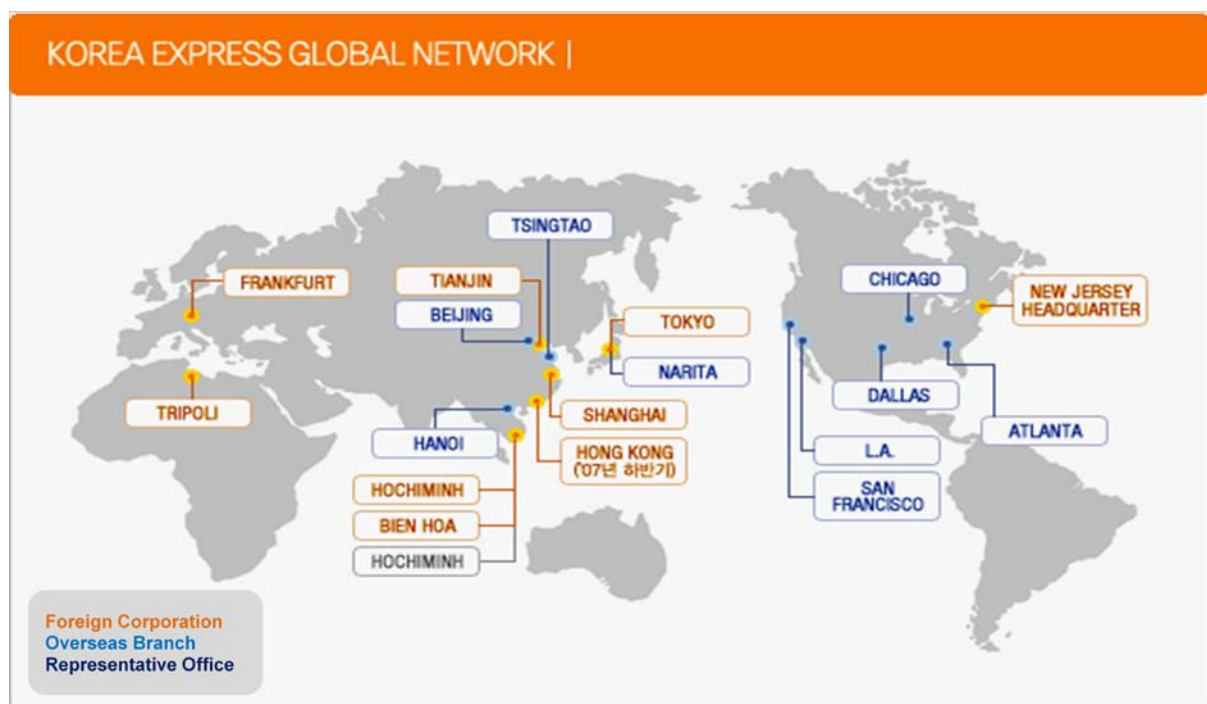


Figure 9. Range of Korea Express's Service Provision across the World

## **Supply Chain Management (SCM): Logistics Process**

### ***Global Corporations***

It has been a trend in the logistics industries in the world that logistics businesses go out of the simple delivery service to an integrated one-stop logistics service. The integrated logistics service that is receiving increasing attention is logistics service of an extended concept which requires SCM and is based on information technology, and it is this integrated service in which global corporations established themselves.

The SCM of such global corporations integrates all processes from procuring and supply of raw materials required for production and sales to after-sales feedback. Their SCMs are characterized by the situation that various companies are linked in a mix of business circles. The reason for the situation is that an established SCM handles all of the involved organizations in order to yield final products.

SCM will be an essential component in the markets global corporations will enter in the future, and they have already established an entire service network for providing one-stop service according to the fast movement of client firms building up supply chains. What is interesting is that they are a step ahead from integrated logistics service toward “one-stop” service that guarantees even financial.

As mentioned, the most significant foster in global corporations’ building up SCM is the part of financial support. The integrated SCM service of DHL is the concept of total logistics involving not only export/import logistics and warehouse management but also support of inventory management costs through Vendor Managed Inventory (VMI). Unlike total logistics service offered by general logistics businesses, DHL supports the inventory costs of a client firm through its affiliate, Deutsche Bank, providing service integrating finance with logistics. Also, it focuses on being uniform in offering same service to the logistics sites of business circles across the world. DHL is supplying logistics service for

product parts to Sun Microsystems, HP, Toshiba and so on, through its global network. That is, the service is the concept combining express and logistics.

In the case of UPS, UPS Supply Chain Group has declared its vision as “synchronizing commerce for our customers.” This strategy shows that UPS understands well the importance and values of SCM. “Synchronizing commercial transactions through a single source” means that a single company (UPS) provides a one-stop service satisfying such various needs of customers as domestic or international courier service, transport, total distribution, integrated IT solutions, consulting and financial service.

FedEx also thinks that with the increasingly developing e-commerce and ever more complex logistics networks, whether a company has a swift and accurate logistics network decides its competitive power and that transportation in the present business environment does not mean just carrying goods from a warehouse to an end-user at a low price. The company, thus, regards SCM as the link connecting every supply chain from the supplier of a client to another customer of the client and so has offered services fit for its SCM.

To put it simply, responding to globalization of client firms, global corporations have striven to offer uniform and standardized high-quality logistics services across the world.

### ***Domestic Companies***

The general features of SCM of the domestic third party logistics providers are as follows:

First, Korea Express is doing business in 45 sectors including harbor loading/unloading, land carriage, construction, warehousing, courier service, rent-a-car, environmental business and weight cargo transport. It directly operates most vehicles among the domestic logistics companies and so is able to supply stable logistics service under any circumstances. The sector of harbor loading and unloading accounts for 99% of the national import and export

logistics, and the company as a leader in the sector is performing harbor loading and unloading works in 22 trade ports in the country. It has 42 branches and warehouses with the gross area of nearly 200 thousand pyeong (approximately, 60.606 thousand m<sup>2</sup>) across the country, and 46 bases in 118 countries. Global Logistics Providing System (GLOPS) is a multinational third party logistics system linking bases in the world as well as in Korea. The system is capable of managing and controlling a number of divisions: i) customs management, ii) financial settlement for in-company and out-of-company works, iii) domestic and overseas delivery, iv) loading to and unloading from domestic and overseas warehouses, v) inventory management, vi) tracing to air and seaborne import and export goods and vii) checking of details of goods.

Korea Express is offering integrated logistics service to a multinational corporation, L. So, the responsibility of Korea Express includes carrying, transport and warehousing of raw materials for the products of L. The raw materials unloaded at the Gwangyang port are stored in the warehouses of Korea Express and transported to the plants of L. The products of L are divided into those for domestic use and for overseas use, and the products for domestic use are transported by land carriage to every area they are needed in Korea, and those for overseas use are loaded in ships at the Gwangyang port and exported to Southeast Asia. A contracted international partner of Korea Express stores the exports in warehouses and transports them. The whole logistics process can be traced in real-time by the global SCM system of the company, 'GLOPS.'

In addition, the company has been systematic in providing total logistics service. For example, it offers GM Daewoo logistics service involving transport and delivery, container transport, loading and unloading of exported and imported cars, customs clearance, forwarding and lead logistics provider (LLP) service connecting domestic and overseas

businesses. The company has done its best in developing and complementing logistics solutions for GM Daewoo.

Second, the strategy that Hanjin established to operate logistics service for the specialized tire company, Nexen Tire, stresses the “Expansion of Global Biz” and includes process optimization, reduction of inventory assets and improvement in services to customers. The global SCM service of Hanjin optimized the logistics process of Nexen Tire by integrating 34 logistics bases that had been operated by Nexen Tire to 8, improved the quality of order management by building up an integrated ordering system and realized 99% of the order fill rate (OFR) by controlling and managing distribution in a swift way. Nexen Tire benefited from the third party logistics service of Hanjin in cost reduction by 25% and 1 decrease in working inventory of 46%. Hanjin concluded a logistics partnership with a food manufacturer, S, in 2005 and then integrated the 7 logistics bases of the company that had been managed by individual branches to a single base. Logistics centers were optimized by in-time loading and unloading management and inventory management per locations through ABC analysis, and complicated administrative matters in the existing supply chain were integrated and simplified with high-tech IT systems including Digital Logistics System (DLS), Warehouse Management System (WMS) and Transport Management System (TMS). The introduction of Short Message Service (SMS) enabled the delivery information to be checked in real-time. S got beneficial results from the third party logistics service such as inventory accuracy of 99.9% and reduction of logistics costs by more than 20%.

Third, CJ GLS supports domestic and overseas logistics systems with Global Information Advanced Network Technology (GIANT). In GIANT, the forwarding system is Forwarding Management System (FMS), the global visibility system is i-Frame, global cargo tracking system (GTS), the local-area operating system is warehouse management system

(VMS) and transportation management system (TMS), through which the company is able to offer customers the freight information they want, anytime and anywhere.

The system of CJ GLS that supports the global SCM service is a strong logistics system which covers 17 corporations in 10 countries as well as businesses in Korea. It notifies client firms of correct information and forecasts on freight like forwarding of imported and exported goods, container management between ports, and operation in local areas.

The global control center (GCC) of CJ GLS turns the indicator red if an emergency situation occurs to notify customers that goods might arrive late at a target port, and the situation is informed to the nearest office so that the corporation can take prompt steps. In short, the company has a system capable of supporting the global SCM logistics service that can integrate information on current freight conditions and forecasts.

Last, Hyundai Logistics adopted an advanced WMS of EXE Technology Co. in 2002 and has provided optimal logistics services to manage Advanced Ship Notice (ASN, information on planned receipt of goods), goods receipt, warehousing, goods issuance, picking, and cross dock. In addition, it supplies a number of systems such as Transport Management System (TMS), Order Management System (OMS) and Online Analytical Processing (OAP) system.

Based on these advanced systems, Hyundai Logistics constructed a Logistics Integrated Control System (LICS) that controls, inbound logistics, warehousing logistics, outbound logistics and international logistics of a client firm, and provides logistics services for about 2 hundred companies including Hyundai Heavy Industries, IS Dongseo, Nong Hyup (National Agricultural Cooperative Federation) and KT.

The above SCM systems of the domestic logistics companies, even though looking like an all-round network of chains with a complete process, can cover only domestic

businesses. They are different from the systems of the global corporations that can link each and every part of the world in a network and are easy and simple to use everywhere. On the other hand, the SCM system of global corporations handles multiple client firms, not a single firm, and a single solution is used to operate, in an integrated way, the SCM system for covering lots of countries in the world, without operating several systems for individual countries.

All of the domestic logistics companies, when interviewed, were thinking that the existing solutions are unsatisfying and for each of client firms, solutions established on new information technologies are required and that they have a long way to go before offering global service.

### **Information Technology (IT): Visibility and Rapidity**

#### ***Global Corporations***

As for the IT sector, FedEx, which was used as a model company of the sector during this study, will be explored. FedEx has continued to invest a huge amount of money in IT, more than 1.5 billion dollars that have been put to the IT sector since 1970. Customers not only can trace locations of freight through the Internet but also can use an online “Shipping Manager” program in preparing documents required for international trades such as commercial invoices.

Client firms have benefited from the IT-based SCM systems of FedEx including EC-Inventory Visibility, EC-Manufacturing Visibility, EC-Warehouse Management and EC-Return Management, so they could distribute properly inventories in their plants and warehouses, and/or in warehouses supplied by FedEx, and reduce logistics costs to a great degree (20 to 30% reduction at largest). They were fast in delivering goods to customers,

which contributed to heightened customer satisfaction, and made FedEx more competitive in the market.

FedEx believes that the costs for inventory management are really a burden to companies, but they can shorten the business cycle from goods production to supply with IT. In addition, products can be manufactured according to demands checked in real-time, which helps reduce inventory and management costs. Figure 10 shows how IT supports FedEx's TMS Process.

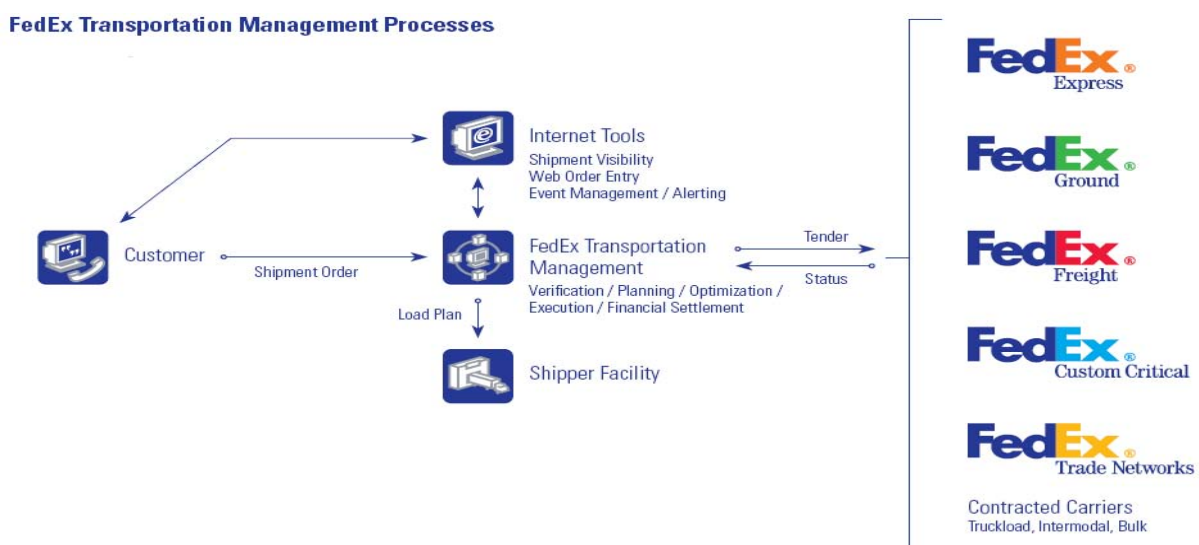


Figure 10. FedEx's TMS Process

A multinational corporation that makes high-tech and high value-added products can manage inventories in the corporation's plants and warehouses located across the world and deliver fast them to customers, through a program with visibility on the Internet.

The other global corporations also have developed their own information technologies, and by using basic IT tools, have provided an integrated SCM service that directs a production schedule on consideration of orders, updates inventory data, makes the data accessible from any region in the world and so allows current conditions of logistics to be traced through the Internet, leading to an improvement in the quality of customer service.

Interestingly, domestic logistics firms also are investing a considerable amount of money in or are utilizing E-SCM and RFID. What the investment in the IT sector means to the global corporations is not just operation of logistics service by simple software, but the ability to satisfy customers and ensure safe and efficient service, helping them to be a leading company in the world.

### ***Domestic Companies***

For the IT sector in domestic businesses, CJ GLS was used as a model. First of all, the difference between opinions of the companies and the actual operators will be explained briefly.

Concerning the questionnaire about IT (“Various logistics data are well handled by IT,” “Required information is well conveyed by IT,” “All of required data can be obtained with IT,” “Correct information can be obtained with IT,” “It is convenient to use IT.”), the domestic companies made the same answer continually: “It is average.” But, the answer was different from the message on their websites, “We are able to offer the best service across the world as well as in Korea.” And, to the question, “What kind of IT will be used for globalization in the future?” they answered that ITs of complete integrated logistics for a global network will be provided.

Table 10. Situation of IT Utilization by CJ GLS

System	Related Process	Description
EIS	Report of management information	The information generated in ERP is provided as the information for the management.
BW	KPI management	KPIs related with sales, business results, profit and loss are managed on the basis of accounting.
OMS	Order management	Order management, assignment and ordering management, provision of inventory data at the time of ordering
i-TMS	Delivery management	Plan for intervals of vehicle operation, and routing
u-TMS	Transport management	Management of transport partners, management and settlement of sales and purchase
WMS	Logistics center operation and inventory management	A system to operate logistics centers
Partner Management System	Management of partners	Sharing of information on partners, management of their performance
BillingSystem	Calculation of logistics service	Daily calculation of logistics charges
Accounting System	Management of overall profit and loss, accounting and funds	FI/CO/TR
StoreFront	Provision of information	Supply of logistics portal site and customer mobile office
Control System	Tracing of freight	Freight tracing management system
Claim Management System	Claims	Customer's claim handling system
TCC System	Total control center for logistics	3PL Total Control Center (receipt of C/S and control, management of handling)
Receipts Scanning System	Management of receipts	Electronic file management system to save receipts
Integrated Courier System	Courier management	Courier service management and branch service store management system
GLSN	Global Tracing	A visibility system on global logistics
Forwarding	Forwarding work system	B/L issuance, export and import management
i-Frame	Global Tracing	Provision of visibility information. the name of the system of the company The GLSN system is called the name of the system of the company.
EAI	Integrated system management (Interface)	Real-time data transmission between TCC and WMS

Even though CJ GLS seems to have ITs of a high level in Table 10 (Situation of IT Utilization by CJ GLS), Table 8 (Comparison of Domestic and Global Companies Interviewed) shows that the company has general IT tools often used by domestic and overseas businesses, but RFID and E-SCM are never applied or incomplete. This situation is same as that of the other domestic companies questioned.

For instance, when a client firm entrusts logistics works to a third party logistics provider, the client wants to receive not only detailed information on financial calculation but also information on each process of logistics service supply and demands. Such information per process should be sent rapidly and correctly to systems of the client. In other words, the client firm thinks that it is important to link data with its existing systems and requests that there should be no difference between logistics works by the client itself and those by the logistics provider. The domestic third party logistics providers, however, have used their own IT tools, not interfacing with IT tools of client firms, and reorganized systems whenever there is a trouble. Unlike the global corporations offering total logistics services from IT tools to SCM, the domestic companies have basic IT tools and so use the tools of client firms, which makes their third party logistics service imperfect.

Due to the relatively small market of Korea, it is difficult for domestic companies to make considerable investment in the IT sector.

Table 9 shows costs of the domestic companies for IT investment, which are very different from those of the global third party logistics providers, amounting approximately to 40 billion won per year. Slow companies in enhancing logistics information systems will run into trouble before becoming a global third party logistics provider because customers ask them for swift, accurate and inexpensive services.

Therefore, domestic logistics businesses, even though it will take much time and money to build up an information infrastructure, should have logistics systems standardized across the country and make constant efforts to establish an infrastructure across the world.

## **Measures to Improve Competitive Edge in order to be a Global Logistics Business**

### ***Problems of Domestic Third Party Logistics Providers***

#### ***1) Environmental Problems***

#### ***The Market Centered on First and Second Party Logistics Providers***

First party logistics that forms about 60% of the total logistics activities of the domestic manufacturing and distribution businesses makes it impossible for the third party logistics market to grow and so can be regarded as a factor that interferes most with the growth of third party logistics providers. Since the IMF crisis, manufacturers (conglomerates) have assigned global logistics services to their logistics subsidiaries, but such services had been entrusted to third party logistics providers, which has perpetuated the popularity of second party logistics. In 2002, logistics costs by vehicles for non-business use accounted for 78% in the transport division, and logistics costs by utilization of company's own warehouses occupied 92.7% in the warehousing division. The fact shows well the structure of the industry consisting mainly of first party logistics providers. (the Korea Chamber of Commerce & Industry, 2002)

#### ***Small-Scale Enterprises in the Logistics Market***

In 2002, the sales of 36 large companies (with more than 500 employees) accounted for 58.5% of the total sales of the logistics market in Korea, and the average sales of them were 840 billion won. The number of middle-sized businesses that have 100 to 500 employees was 365, and their average sales were 18 billion won, which formed 12.6% of the total sales. And, the number of small-scale enterprises that have less than 100 employees was 144,706, but the sum total of their sales were 14.96 trillion won, accounting for 28.7% of the total sales of the market, and the yearly average sales were 0.103 billion won, which were less than 1/100 of those of the middle-sized businesses and 1/5,000 of those of large

companies. It was found that those enterprises were in poor condition so that it was difficult to expect them to improve by their own efforts like re-investment. (Korean Transportation institute, 2004)

Through the fact, the structure of our logistics industry was clearly revealed, where poorly-equipped third party logistics providers reach a surprising number and the gap between large and small companies is quite large. This is such a bad situation that the domestic logistics providers can be in danger of going bankrupt, when considering the forecast that global logistics corporations with large capital and networks and accumulated know-how on business operation will make forays into Asian countries including Korea.

#### ***No Reliable Logistics Businesses***

Presently, there are few competitive logistics businesses that are able to carry out active marketing strategies to third party client firms, and the majority of client firms do not know the advantages and effects of using third party logistics providers. Even though the number of logistics businesses which claim to offer third party logistics service or total logistics service has increased, most of them are subsidiaries handling their affiliates and so do not consider such firms as being potential to use third party logistics service. Also, the independent third party logistics providers often do not come up to demands of client firms, so failing to lead their businesses. Accordingly, the market of third party logistics has been operated rather by small-scaled functional logistics services than by total logistics services.

## ***2) In-Company Problems***

### ***Insufficient Local Business Bases and Experience in Overseas Markets***

The domestic third party logistics providers are characterized by the fact the numbers of serviced continents, countries and cities, and local business bases are less than those of the global third party logistics providers, even though they claim to provide global third party logistics service. Along with the insufficient infrastructure, little experience in global logistics makes firms reluctant to entrust these firms. The majority of logistics of domestic manufacturers for exportation have been entrusted to foreign logistics corporations. As a result of the interview about entering into overseas markets and supply of service with the domestic third party logistics providers pursuing global logistics, domestic firms are operating overseas branches or business bases in a few areas where the volume of service orders and profits are secured, but they have no significant results in the other areas due to their uncompetitive investment activities. With such a narrow network across the world, domestic companies outsource overseas logistics works, thus having difficulties offering service to the extent client firms want.

### ***Weakness of SCM for Global Service***

As a result of the survey on the divisions adopting SCM, the global third party logistics providers were able to adopt SCM in every division (estimate, packaging, invoice, pickup, tariff, tracking, customs clearance, transport and delivery, and automatic settlement of charges), whereas the domestic ones were able to apply SCM to transport, delivery and some of the others in the domestic part, and only to courier service and special delivery in the international section. In addition, the global third party logistics providers continued to make outstanding investment in IT, striving to construct more complete SCM, but the domestic ones seemed to make a token gesture towards investing in IT.

Weak SCM of domestic third party logistics providers will make them fall behind in the competitive market and eventually lose their footing, because the final goal of client firms is to reduce logistics costs and create profits. As a result of this study, domestic third party logistics providers with weak SCM do not have a complete network across the world and so need to make more efforts to develop IT and solutions.

### ***Imperfect Integrated Service***

The capabilities of the global and domestic logistics companies to perform service were also surveyed. Of the domestic companies, Hanjin, that has Korean Air and Hanjin Shipping as its affiliates, had a complete infrastructure spanning all of the logistics services (air transport, shipping, land carriage, warehousing, loading/unloading, customs clearance), and the other domestic firms were incapable of providing efficiently other than their core services. And, no domestic companies offered financial support that helps client firms reduce the burden of financial requirements, and so encourages them to use third party logistics service. When interviewed, the domestic companies answered that services other than core businesses were outsourced and then provided to clients, being negative about investing in and expanding service for the reason of costs.

## **SWOT Analysis on Domestic Third Party Logistics Providers**

### ***Threats***

The SWOT analysis was conducted on the current environment of the global third party logistics industry. As a result of the analysis, threats to the domestic third party logistic providers are as follows:

The first threat factor is “expansion of global logistics corporations to include third party logistics service.” Global logistics corporations have expanded their businesses to include third party logistics in order to satisfy customers’ needs and to generate new profits, which will not only hinder domestic logistics businesses from pursuing globalization but also will eat away at the domestic logistics industry.

The second threat factor is “shrinking power of competitiveness due to energy prices rising.” Rising prices led to an increase in investment risk and made domestic companies negative about investing, which will eventually make them uncompetitive in the market.

The third factor is the “influence of global corporations on the logistics market.” Global companies are becoming ever larger through strategic alliances and M&A and are exercising their influence in pricing of the logistics market. The situation will be an obstacle to relatively small-scaled domestic firms in entering overseas markets.

The fourth factor is “incompetence in providing swift and various logistics service.” Domestic companies that are not equipped with a global infrastructure and competitive edge (SCM, IT) have difficulty satisfying the needs of client firms, therefore, they will have no opportunities of offering service.

The last one is “ignorant domestic client companies.” In logistic services, it is important to respond to various and complex demands of customers as well as to reduce costs. The trend of the market that puts top priority on cost reduction is the major obstacle that keeps domestic third party logistics providers from growing.

### ***Opportunities***

The current ever-changing logistics environment of the third party logistics industry does not always have adverse effects on domestic third party logistics companies. How they react to the changing environment decides whether opportunities are exploited or not. Under the current situations of the domestic third party logistics industry, opportunities are summarized as follows:

The first opportunity factor is “increased opportunities to secure overseas bases.” As a means to expand foreign trade, multi-lateral trade agreements (FTA) have increased rapidly, and this can be a chance for domestic third party logistics providers to secure overseas bases. According to the national policies to promote logistics businesses, a client firm and a logistics company can enter together into overseas markets, and at the time the logistics company is given an opportunity of building up overseas bases. The company can provide logistics service from the established overseas bases to domestic client firms, thus becoming more competitive.

The second opportunity factor is “increased opportunities to offer logistics services, with the movement of the center of the world economy.” As the center of the world economy has moved to Pacific Rim and Northeast Asian countries, demands for third party logistics will continue increasing. At this point in time, domestic companies, based on careful examination and analysis on overseas markets, should make efforts to occupy the markets in advance and to take a superior position in competing with global third party logistics providers.

The third factor is “provision of optimal SCM by using advantages as the strong IT country.” The market will continue to call for quick response of logistics networks with advanced IT and reduction of logistics costs and innovation in logistics service by efficient

SCM. Developed technologies in Korea, as a strong IT country, will be a great advantage to domestic companies in securing a competitive edge.

The last factor is ‘national policies to support logistics.’ If domestic third party logistics providers use the supports for total logistics companies that are promoted by national policies, it will not difficult to handle issues requiring investment funds, such as IT development, establishment of overseas bases, and extension of logistics infrastructure.

### ***Weaknesses***

It was found out through this study that domestic third party logistics providers should make every effort to take a position and capability of performing global logistics works. Based on the results of the analysis on the domestic third party logistics providers, their weakness and problems in administration were found as follows:

The first weakness factor is “insufficient bases and infrastructure.” They have insufficient bases and infrastructures across the world to be a global third party logistics provider, which results in a limitation of serviced areas and makes the providers incapable of offering swift and accurate service.

The second weakness factor is “shortage of competitive edge.” Global third party logistics providers have a large volume of services and provide them across the world, so they could have economies of scale, making their service competitive in price. On the contrary, domestic firms only perform part of the logistics works of client firms, so they fall behind in competition, due to higher service charges.

The third weakness factor is “imperfect SCM owing to inadequate investment in IT.” If the attitude of domestic companies to investment in IT does not change from being passive to being positive, Supply Chain Management (SCM), which is required by most customers in

the world will be impossible to achieve. Even the existing businesses of domestic logistics firms will be absorbed by competitive global corporations.

The forth factor is the “weak will to occupy the Asian market in advance.” Global corporations such as FedEx, DHL, Schenker and Panalpina are already providing service in Asian countries and doing their best to extend logistics bases and infrastructure there. Domestic third party logistics providers, which fall behind those global ones in many aspects, need to put their energy on entering new markets in advance, but they are still very slow in making forays into such markets.

The fifth factor is “few supports for the infrastructure of skilled human resources.” The relevant authorities are investing a lot of money in developing skilled human resources in cooperation with colleges and graduate schools for the purpose of having global-minded logistics people. Domestic third party logistics providers are, however, making few responses to employees’ desire for self-development (entering to graduate schools, registration to private schools, overseas training, etc.) because of the costs involved. Therefore, it became difficult to secure people competent to do specialized logistics works.

### ***Strengths***

The domestic third party logistics providers, when compared with the global providers, were found to fall behind them in every aspect including globalization, SCM and IT. But the strengths of the domestic providers that are expected to grow are as follows:

The first strength factor is that ‘affiliates of the domestic third party logistics providers are at the same time their partners in cooperation for promoting strategic development.’ The affiliate and partner of Korea Express is Kumho Aisana; that of Hanjin is Korean Air and Hanjin Shipping; that of Hyundai Logistics is Hyundai Merchant Marine; and

that of CJ GLS is Accord Logistics, so they have the potential to offer diverse and swift service.

The second strength factor is ‘forays into new markets which are client firms of other domestic companies.’ Thanks to its entry into World Trade Organization (WTO) and rapid economic growth, China is emerging as the center of the world logistics industry. Domestic logistics businesses can take a favorable position in dominating the Chinese market and securing a logistics infrastructure across the country, based on the fact Korea has a geographical advantage as a neighboring country and can take advantage of Korean manufacturers that have done business there since long time ago.

### ***Results of SWOT Analysis***

The global third party logistics market is changing faster than ever before. In this complex and capital-intensive market, mega corporations that provide third party logistics service are extending their business networks at a high speed to dominate the world industry. They have invested enormous sums of money to have skilled human resources and extend their infrastructures at local sites, and have built up systematic SCM. With the development of global logistics corporations, domestic third party logistics providers are confronting a management crisis. To make matters worse, the low business profits of domestic third party logistics providers hinders them from investment and development activities, which will result in domestic businesses being slow in achieving globalization or absorbed by mega corporations. The results of the SWOT analysis mentioned above are summarized in Table 10.

Table 10. SWOT Analysis on Domestic Third Party Logistics Providers

Threats	Opportunities
<ul style="list-style-type: none"> <li>- Expansion of global corporations to include third party logistics service</li> <li>- Shrinking power of competitiveness due to energy price rising</li> <li>- Heightened influence of global corporations on the logistics market (in pricing)</li> <li>- The ever more changing trend of logistics service and various needs of customers</li> <li>- Ignorant domestic client companies which consider only cost reduction</li> </ul>	<ul style="list-style-type: none"> <li>- Increased opportunities to secure overseas bases, thanks to increase of trade agreements (FTA)</li> <li>- Increased demands, with the movement of the center of the world economy to Asian regions</li> <li>- Chances to get competitive edge by providing high-tech SCM that is realized by using advantages as the strong IT country</li> <li>- Logistics policies of the nation that strives to develop logistics businesses</li> </ul>
Weakness	Strength
<ul style="list-style-type: none"> <li>- Too insufficient bases and infrastructures to be a global third party logistics provider</li> <li>- Low price competitiveness</li> <li>- Imperfect SCM systems and inadequate investment in IT</li> <li>- A weak will to occupy the Asian market in advance</li> <li>- The high rate of second party logistics business in the domestic market</li> <li>- Few reliable logistics companies</li> </ul>	<ul style="list-style-type: none"> <li>- The potential for future development (by establishing partnership with affiliates)</li> <li>- Realization of political and business circles on the importance of investing in global logistics</li> <li>- Forays of a number of domestic manufacturers into the Chinese market</li> </ul>

## Measures to Improve Competitive Edge

### *Establishment of SCM for One-Stop Service*

As said above, the service by global third party logistics providers accounts for 80% of the world market and they have made every effort to offer standardized logistics services anywhere in the world. And, their SCM is an integrated solution that covers and links lots of companies and industries, not a solution only for a single business.

With this current movement in the industry, domestic third party logistics providers also have to invest in and develop an integrated solution that can apply to every business so that a network of supply chains for logistics service can be established. Responding to client firms' effort to build up a supply chain, the domestic logistics providers should be able to

offer one-stop service involving financial support, which is service, offered by global logistics corporations, and for that, should not set a limit on the types of possible services.

### ***Utilization of Latest IT***

Without IT, no business can be efficient and competitive in any of the world markets. It is the IT sector rather than core logistics works that decides whether a company is competitive. It is necessary to use various types of IT in constructing systems to realize e-SCM, such as utilization of various application packages and integration of communication networks between systems and between regions. Financial support is critical in building up such IT. Considering the poor conditions of domestic companies, they need to cooperate with the government, which pursues world-class logistics power, to solve their financial difficulties and make considerable investment, which will help them to take a superior position in the market. When utilizing IT, domestic third party logistics providers should bear in mind that IT should be used for customer-oriented service and at the same time should be able to contributing to reducing operation costs.

### ***Extension of Logistics Infrastructure***

The most urgent issue that domestic third party logistics providers have is ‘extension of a logistics infrastructure.’ It is a definite fact that the strongest point of the global corporations such as FedEx, UPS and DHL is the logistics hubs of their own positioned across the world. Although domestic third party logistics providers have made much effort to have such hubs, it is impossible to establish them in a short period. The government is, however, planning support measures for the establishment, so the domestic providers should organize a network of hubs, based on analysis and careful selection of top priority investment

areas according to the trend of the world logistics industry, which will make them competitive in new markets in the world.

### ***Tendency of Businesses for Large Scale***

Considering the worldwide attempts of distribution and manufacturing businesses in globalization, domestic third party logistics providers are very slow in entering overseas markets. The domestic providers should extend strategically their businesses in the shortest time possible so that they could compete with global third party logistics providers continuing to grow through aggressive M&A and strategic alliances. But, such extension does not mean just a large size, but means a strategic process by which a company's own network is established, centering on potential markets, and the company takes a favorable position through for example, mergers or alliances to dominate the markets.

## **V. Conclusion**

### **Summary of Research Results**

The purpose of this study is to compare and analyze domestic and global third party logistics providers and to understand their current situations. In addition, hopefully it will help to establish strategies for globalization.

The research model of this study was organized to include the following: review of the related literature and case analysis of logistics companies to find motives of domestic third party logistics providers for globalization; survey of and interview with people in charge of logistics to find internal conditions of domestic logistics companies, efforts for globalization, logistics process, IT and SCM, domestic and international environment, government policies and measures to improve competitive edge of the domestic companies, and so on. The concept of globalization was divided into 3: regional globalization through M&A and strategic alliances, globalization of systems through establishment of IT and SCM, and globalization characterized by competitive edge of companies, not by logistics bases constructed by reckless investment.

To present measures to improve the competitive advantages of domestic third party logistics providers, this study analyzed current situations of global third party logistics providers and explored the world logistics environment. Also, the present environment of the domestic providers was analyzed so that efforts of companies and political support of the government for globalization could be seen. The results of the study are summarized as follows:

The motives for globalization are ‘establishment of SCM for one-stop service,’ ‘utilization of latest IT,’ ‘extension of logistics infrastructure’ and ‘tendency of businesses for

large scale,' and they are also strategies to take a superior and competitive position in the market.

Those issues can be explained from the following two aspects. First, domestic third party logistics providers have insufficient business networks in offering service across the world, inadequate software, hardware and infrastructure of human resources and weak SCM systems. It was found out that in order for the domestic businesses to realize globalization, they should be equipped with a minimum network and an infrastructure that are operable in offering service, through M&A and strategic alliances and then, introduce SCM by developing IT.

Second, globalization of logistics is not only the responsibility of domestic third party logistics providers but also an important issue in national policies. Thus, supports at the level of the government are required for globalization, development and systematization of the domestic providers, and joint analysis (companies and the government) on investment areas should be carried out in order to prevent reckless investments, which will make the domestic companies more competitive in potential markets in the world. As for domestic issues, the supports for globalization should focus on control of second party logistics for invigorating third party logistics, improvement in the structure of poorly-equipped logistics businesses and establishment of the culture of logistics cooperation with client firms at home and overseas for restoring the reliability of domestic logistics businesses.

### **Limitations of Research and Ways of Further Research**

Domestic third party logistics providers were questioned and then interviewed so that this study could analyze the management situations of the providers for globalization and present basic conditions and strategies for them to be a global logistics corporation. But, much of the study was dependent on the related literature and there were limitations in

collecting correct data on in-company policies from those interviewed. The past strategies for globalization of the global corporations of today also were hard to handle in detail. The limitations of this study are as follows:

First, it was the related literature on which this study depended mainly, and there were limitations in collecting correct data on domestic and overseas third party logistics providers.

Second, the number of the companies questioned was merely 4 among the domestic companies, only they have done such businesses as performed by global corporations.

Third, those who were questioned and interviewed did not know situations and strategies of the companies that were not their field of work, and the results of the interview were different from what was written on the websites of the companies. It was, thus, difficult to reflect accurate characteristics of the interviewed companies.

Fourth, there were few studies on globalization. Most of the related literature was limited to manufacturing businesses and particular areas of logistics (courier service and international special delivery). So, it was impossible to include comprehensive information on third party logistics providers.

Last, since the field of logistics is more fluid than generally expected, is complicated and has many factors of invigoration and hindrance, it was impossible to decide wide-ranging variables and develop an optimal model.

Therefore, it was thought that further research should conduct accurate analysis on variables for each result per division, overcoming the monotony of this study, so that the research can propose long-term strategies for invigoration, not fragmentary management strategies, and ways in which the logistics market will develop, and can set up a more sophisticated research model for efficient measures of the government. Such research will suggest concrete strategies for each of the types of globalization that varies per factor.

## **Appendix A: Survey Paper**

### **Surveys for Understanding How Information Technology Influences on Logistics Management**

#### **Purpose of Survey**

This survey will ask how information technology influences on logistics business. The purpose of this survey is responding to informational logistics environment changes by practical use of information technology and improving logistics service quality. Every response will be used for academic purpose only and specific firms/individual respondents will not be evaluated additionally. All your sincere responses will be used as valuable research data. Thank you very much for your time.

#### **I. General Information**

1. Name of your Company: \_\_\_\_\_
2. How many employees in your company? : \_\_\_\_\_
3. Address: \_\_\_\_\_
4. Phone Number: \_\_\_\_ - \_\_\_\_ - \_\_\_\_
5. Name of Respondent: \_\_\_\_\_
6. How long did you work in Third-party Logistics / IT: \_\_\_\_ / \_\_\_\_
7. Annual Sale: \_\_\_\_\_
8. Number of Nations that your company serves: \_\_\_\_\_
9. Number of Vehicles (Vessels) your company has: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

#### **II. Logistics Process (both Domestic and International)**

1. Following questions are logistics processes some companies perform. Give answers as O/X that your company's domestic and international processes.

\* Your company's business area: International ( ), Domestic ( ), the others ( )

##### **1) International/Domestic Express Service**

###### **i. Order**

- a. Estimate charges and delivery time by online ( )
- b. Customize shipping package ( )
- c. Make online invoices ( )
- d. Offer pickup service by online ( )
- e. Estimate custom duty and taxes by online ( )

ii. Collection of Cargo

- a. Collection alarm service via text/e-mail ( )
- b. Operate off-line reception desks for 24 hrs ( )

iii. Delivery

- a. Tracking package by tracking #, customer's name, and e-mail ( )
- b. Real-time confirmation of delivery ( )

iv. Basic Service

- a. Provide online international custom information ( )
- b. Register customer identification number by online ( )
- c. Simultaneous shipping large amount of goods by installation of online software package ( )
- d. Automated checkout system by registering credit card or account number

v. Other services that your company provides:

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2. Following questions are IT tools that some companies use to provide third-party logistics. Please give "yes" or "no" whether your company uses these kinds of tools or not. If you answered "yes", please give the name, functions of the IT tools.

1) e-Supply Chain Tools

- i. Inventory Visibility tool (Track and manage goods in your stock via the Internet and provide perfect visibility of inventory through supply chain.)

a. Use of the tool:

b. Name of the tool:

c. Other IT tools:

- Name: \_\_\_\_\_

- Functions: \_\_\_\_\_

- ii. Manufacturing Visibility Tools (Manage and track raw materials, provide manufacturing time, forecast raw materials needed, and data management.)

a. Use of the tool:

b. Name of the tool:

c. Other IT tools:

- Name: \_\_\_\_\_

- Functions: \_\_\_\_\_

iii. Return Management tools (Manage return, repair, and exchange service process and improve customers' trust and satisfaction.

a. Use of the tool:

b. Name of the tool:

c. Other IT tools:

- Name: \_\_\_\_\_

- Functions: \_\_\_\_\_

3. Following example is one kind of logistics management services when some companies provide third-party logistics. Please give "yes" or "no" whether your company provides these kinds of services or not. If you answered "yes", please give the name, functions of the service.

a. Integrated e-business logistics management service (i.e. providing optimal logistics and distribution service by world-wide Logistics Distribution Center located in strategic city to improve customer firms' global competitiveness.)

i. Safekeeping and shipment of goods ( )

ii. Reduce high cost inventory logistics ( )

iii. Refresh and provide up-to-date information of logistics ( )

iv. Provide real-time tracking of goods and improve both transparency visibility of supply chain. ( )

v. Provide whole custom clearance service ( )

vi. Reduce business cycle time ( )

vii. Improve business flexibility ( )

viii. Other IT services:

- Name: \_\_\_\_\_

- Functions: \_\_\_\_\_

### III. Global Supply Chain area, main body provides services, and IT

1. Check your company's business region.

	Region	Base Country	Base city	Provide Direct Service	Outsource	IT infra
Europe						
Asia						
Africa						
Oceania						
North America						
South America						

a. Method of Globalization (i.e. M&A, etc.):

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b. Reason for choosing base country or city:

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c. Reason for outsourcing/direct service:

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d. Any plan for building IT infra to support global logistics services? :

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2. Check your company's service.

	Service Availability	Direct	Outsource	Use of IT
Air				
Sea				
Land				
Storage				
Loading & Unloading				
Custom Clearance				

\* Other services that your company provides: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

a. Reason for not providing services: \_\_\_\_\_

\_\_\_\_\_

b. Reason for direct service or outsourcing: \_\_\_\_\_

\_\_\_\_\_

c. Any plan for building IT infra to support globalization of your service: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### IV. Application of IT

1. Check informational technology that your company uses.

Information technology	Use	Will Use In 2 yrs	Have No Plan	Terminate In 2 yrs
Barcode				
RFID				
Automated				
Intranet				
GPS				
Electronic Order System				
Auto Packing System				
EDI				
TMS				
OMS				
WMS				
Tracking				
Billing				
Quotation				
PDA				
CRM				
e-SCM				

\* Other information technologies that your company provides: \_\_\_\_\_

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#### V. IT Application issues

1. Check or answer 1 through 5 (1 is least/bad, 5 is very much/good) following questions.

- CEO is interested in improving logistics system: 1 2 3 4 5
- How many logistics information technology experts your company has?
- Position of logistics information technology experts:
  - none
  - General employee
  - Acting head of section
  - Chief of section
  - Chief of department
  - Director
  - President/vice-President
- Systemically improve Supply Chain for globalization: 1 2 3 4 5
- Information Technology is essential for globalization: 1 2 3 4 5
- Continuously invest on logistics information system: 1 2 3 4 5
- Using self-developed logistics information system: 1 2 3 4 5

- h. Able to use current software applications by online: 1 2 3 4 5
- i. Process logistics information with current LIS: 1 2 3 4 5
- j. Manage logistics information data: 1 2 3 4 5
- k. Communicate between people in charge of logistics processes: 1 2 3 4 5
- l. Obtain logistics information through current LIS: 1 2 3 4 5
- m. All information is accurate and managed on-time manner: 1 2 3 4 5
- n. Easy to use LIS: 1 2 3 4 5
- o. Customers are satisfied of your company's services: 1 2 3 4 5
- p. Share information when compose supply chain: 1 2 3 4 5
- q. It is hard to provide integrated logistics services in Korea: 1 2 3 4 5

**VI. Briefly describe your company's future plan to improve global competitiveness (i.e. SCM strategy, new information technology, etc.)**

This image shows a full page of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## **Appendix B: Blue Dart**

The objective of this thesis is to contribute to the globalization of Korean domestic third party logistics companies. This is accomplished through a benchmarking model for globalization based on a comparative analysis of domestic and global third party logistics provider (3PLs) companies.

The research performed a SWOT analysis to indentify the capabilities required by Korean domestic 3PLs to become global 3PLs. The research investigated the following areas: 1) global service, 2) infrastructure, 3) supply chain management (SCM) services, and 4) information technology (promptness, visibility). This was accomplished by an extensive literature review, case analysis of logistics companies, and telephone interviews with individuals in charge of logistics.

The results indentified four areas for improvement: 1) Construction of SCM for one-stop service, 2) Utilization of the advanced IT systems for e-SCM, and consolidating communication network, 3) Expansion of logistics infra-structure by analyzing each region of the world for return on investment opportunities and competition, 4) Enlargement of scale in which Korean 3PLs must enlarge their scale of operations as soon as possible by strategic methods such as mergers and acquisitions (M&A) with local companies.

The main contribution of this research is to provide competitiveness as noted above and if Korean 3PLs strive to enhance those factors, they can achieve a foundation for global competitiveness.

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14. ABSTRACT <p>The objective of this thesis is to contribute to the globalization of Korean domestic third party logistics companies. This is accomplished through a benchmarking model for globalization based on a comparative analysis of domestic and global third party logistics provider (3PLs) companies. The research performed a SWOT analysis to identify the capabilities required by Korean domestic 3PLs to become global 3PLs. The research investigated the following areas: 1) global service, 2) infrastructure, 3) supply chain management (SCM) services, and 4) information technology (promptness, visibility). This was accomplished by an extensive literature review, case analysis of logistics companies, and telephone interviews with individuals in charge of logistics. Four areas for improvement were identified: 1) Construction of SCM for one-stop service, 2) Utilization of the advanced IT systems for e-SCM, and consolidating communication network, 3) Expansion of logistics infra-structure by analyzing each region of the world for return on investment opportunities and competition, 4) Enlargement of scale in which Korean 3PLs must enlarge their scale of operations as soon as possible by strategic methods such as mergers and acquisitions (M&amp;A) with local companies. There is potential growth for Korean 3PLs if they strive to enhance competitiveness as noted above and have government supports. These improvement areas provide a foundation for global competitiveness.</p>					
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